

NTU-NUS/SMU/SUTD/SUSS PhD Student Exchange Programme
List of NTU Courses to be offered in Semester 2 AY2026

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
ADM	AP7050	Filmmaking as Artistic Research	3	This course invites MA and PhD students to develop their research as an open-ended investigation on emerging issues using cinematic forms as a mode of investigation and knowledge production. To research and practice in filmmaking means to collect and record, to perform and act, to narrate and understand the makings of images in this world. This course fosters research methods and practice through filmmaking with a focus on topics of environment, climate change and image-making. Consisting of a series of lectures, film viewings, and practice-based exercises, and writings this course explores the different methods of artistic research in filmmaking. Students are required to review a set of readings, which must be mastered as the foundation for understanding the major underlying principles of the subject and discussion in class. Your understanding of these basic readings will be put to the test through writing, and during lectures and group discussions. The final project will demonstrate your ability of using filmmaking for artistic research and practice to open the possibility for further investigations.	Mondays, 9.30am to 12.20pm	
ADM	AP7040	Exhibition Design	3	This course will present and discuss current issues and concepts in exhibition-making with a particular focus on design approaches and interpretative techniques that communicate knowledge and engage the audiences. Exhibition-making means the creation of innovative structures for the presentation of cultural artefacts through interdisciplinary collaboration. There will be a critical discussion on the latest design trends in the context of museum exhibitions helping the students to reflect on the relationship between the narrative, the space and the visitor experience. As exhibition concepts and agendas largely reflect the hosting institutions' mission, students will be exposed to a variety of exhibitions: historical, cultural, scientific, permanent and temporary. The course approaches the definition of the exhibition space as a "narrative environment" and the evolving notion of interpreting and displaying cultural artifacts, analyzing the physical, sensorial and conceptual dimension of the museum space.	Wednesdays, 9.30am to 12.20pm	

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ADM	AP7023	Guided Study: Advanced Interdisciplinary Research in Media	3	This course offers hands-on, interdisciplinary training in media research through three distinct methodological lenses. Students arrive with a self-selected research topic and carry it through three sequential mini-projects, each grounded in a different approach: case study analysis, practice-based research, and participatory design. Across the semester, students will gain direct experience researching into media (studying it as an object of inquiry), through media (using media-making itself as a method of inquiry), and with media users and communities (participatory and collaborative research). The course emphasises critical reflection, methodological rigour, creativity, and the development of original research approaches, thus building a versatile methodological toolkit applicable to independent research beyond the course.	Thursdays, 1.30pm to 4.20pm	
ADM	AP7057	Seminar in Design and Colors	3	In this seminar you will analyse and discuss the historical development of two-dimensional design and colour through the lens of Western and Chinese ink paintings. You will study works from the 15th to early 20th century, a period that marks the most significant development of art concepts and technical progress of both Western and Chinese ink painting. Through this comparative analysis you will examine the parallel developments of color theory, space structures and design concepts. This course will deepen your awareness and comprehension of art and design development across these two cultural areas.	Tuesdays, 1:30pm to 4:20pm	
CCDS	CE6127	Artificial Intelligence in Game Design	3		Monday, 9.30am-12.30pm	No formal exam
CCDS	CE6121	Human Computer Interaction Theory and Practice	3		Friday, 6.30-9.30pm	No formal exam
CCDS	CE7412	Computational and Systems Biology	3		Tuesday, 2.30-5.30pm	No formal exam
CCDS	CE7453	Numerical Algorithms	3		Monday, 2.30-5.30pm	No formal exam
CEE	CV7002	Advanced Strength of Materials	3		Every Mon	
CEE	CV7003	Engineering Mathematics and Machine Learning	3		Every Fri	
CEE	CV7501	Membrane Science & Technology	3		Every Wed	
EEE	EE7207	Neural Networks & Deep Learning	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-computer-control-automation#curriculum	Every Thursday (6.30 pm to 9.30 pm)	Letter grade Limited slots, capped at 3 slots
EEE	EE7403	Image Analysis And Pattern Recognition	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-signal-processing#curriculum	Every Friday (6.30 pm to 9.30 pm)	Letter grade Limited slots, capped at 3 slots
EEE	EE7602	Integrated Circuit Technology	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-integrated-circuits-and-microelectronics#curriculum	Every Wednesday (6.30 pm to 9.30 pm)	Letter grade
EEE	EE7603	Semiconductor Physics & Applications	3	Master of Science in Integrated Circuits & Microelectronics School of Electrical and Electronic Engineering NTU Singapore	Every Tuesday (6.30 pm to 9.30 pm)	Letter grade

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LKCMedicine	MD7102	Bio-Entrepreneurship	3	Started in 2016, LKCMedicine's Team-Based Learning Bio-Entrepreneurship course provides post-graduate students with an understanding of the entire drug discovery and development process starting from basic and translational research to creating viable partnerships with BioPharma companies or establishing Spin-Offs. The course is open to students from diverse backgrounds ranging from medicine, life sciences and engineering to humanity and social sciences. To understand biotech investing, each student will be assigned virtual USD 500,000. Each student will use online analytic tools (e.g. Morningstar) to evaluate BioPharma companies from a list we provide, and then use the USD 500K to create an investment portfolio. Students will track their portfolio during the course, buying and selling shares on a weekly basis. Students with the top three most productive portfolios will receive prizes.	Tuesdays, 2.30 - 5.20 pm	
LKCMedicine	MD7107	Latest Development in Infectious Disease Research	3	This course is intended to students interested by the latest development in infectious diseases research. Learning objectives: critical assessment and debate on cutting-edge articles; analyse diagnostic approaches and new therapeutic strategies for viral, bacterial and fungal infections; discuss the global danger and challenges of antimicrobial resistance; discuss and propose solution for current global health challenges in communicable diseases; develop and defend research global health challenges; analyse the clinical relevance of microbiomes and redefine the Koch postulates. A project-based learning approach will be followed that includes team-based analysis of cutting-edge papers; team-based development and defence of solutions for medically relevant problems; elaboration and presentation of research proposals to solve global health issues.	Wednesdays, 9.30 am - 12.20 pm	
LKCMedicine	MD7115	Introduction to Biostatistics with R	3	This course will cover basic statistical principles applied to biological data analysis. Statistical theory will be introduced although the focus will be on the practical usage and applications in biology. The course will be a mixture of lectures and practical sessions in the statistical language R.	Mondays, 9.30 am - 12.20 pm	

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LKCMedicine	MD7116	Introduction to Neuroscience, Neural Systems and Behavior	3	This course provides an introduction to the concepts, principles and technologies of contemporary cellular, molecular neuroscience, and systems neuroscience, including sensory and motor systems, behaviour, memory and cognition. Contents include: •Introduction to Neuroscience •Electrical signals of nerve cells •Voltage-dependent conductance •Ion Channels •Synaptic transmission Neurotransmitters and their receptors •Molecular signaling within neurons •Synaptic plasticity •Early brain development •Construction of neural circuits •Systems neuroscience including sensory and motor systems, behaviour, memory and cognition	Wednesdays, 2.30 - 5.20 pm	
LKCMedicine	MD7119	Advanced Cancer Biology and Regenerative Medicine	3	The course is intended for students with basic understandings of cell biology and molecular biology, particularly those pursuing advanced study or research in cancer biology, stem cell biology, or regenerative medicine. This course will provide an integrated understanding of the fundamental principles of cancer biology and regenerative medicine, with emphasis on the molecular, cellular, and genetic mechanisms underlying tumourigenesis, cancer progression, stem cell self-renewal and reprogramming, and tissue regeneration, highlighting the interface between stem cell biology and cancer biology. Students can expect to develop critical knowledge and analytical skills essential for research on cancer and regenerative medicine.	Thursdays, 9.30 am - 12.20 pm	
LKCMedicine	MD7114	Neuroengineering	3	The course will introduce PhD students to various concepts from engineering that are used in neuroscientific research. Course content will include the following topics: •Signal processing for neural spike detection, sorting and decoding. •fMRI signal processing •Human kinematic modelling, experimentation and data analysis •Signal processing and experimentation for EEG •Eye tracking & Virtual reality as tools for neuroscientists •Medical device design and System integration fundamentals In addition to providing a strong theoretical framework, the course will give students an opportunity to perform laboratory measurements of human kinematics	TBC	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
MAE	MA6514	Machine Learning & Data Science	3	The purpose of this introductory course in Machine Learning is to show how to adopt ML as an important and essential paradigm in advancing a corporation's operation and decision making processes towards Industry 4.0. Using Python, Numpy, Pandas and Colab Notebook as its development environment, the presentation of outcome of machine learning computations are achieved through visualization tool, Matplotlib. Scikit-Learn, an extensive well-documented open source suite of machine learning algorithms serves as the platform to analyse data for underlying trends, classification, identifying criteria parameters, deriving rules for decision making in real-world problem solving, thus leading to a rapid prototyping of a suitable machine learning system. Topics included are: Context of machine learning and data science in Smart Manufacturing for Industry 4.0; Types of machine learning; Unsupervised learning; Supervised learning; Neural networks and reinforcement learning; Model evaluation and improvement.	TBC	Grading
NIE	MAEL922	Leading Curriculum Development, Implementation & Evaluation	4	Curriculum leadership involves overseeing the decision-making, implementation, and evaluation of the educative experience. At the curriculum planning and design stage, value-laden choices are made about what constitutes good education, about what knowledge is of most worth to learners, what experiences are most effective in enabling learners to acquire this knowledge, what is the most appropriate way to organize these experiences, and how would we know if learners have acquired this knowledge. Curriculum leadership also involves overseeing the implementation of national and school-based curriculum innovation efforts, professional development and school improvement. This course will address theoretical concepts that are related to the implementation process and issues of curricular innovations. Finally, the course will introduce participants to principles related to evaluation of curriculum implementation.	Thu 1800 - 2100	LetterGrade
NIE	MAEL932	Educational Leadership and Organizational Culture	4	This course explores the critical role of leadership in shaping and sustaining organizational culture in diverse education contexts. Participants will explore the intersection of educational theory and leadership theories (such as distributed leadership, transformational leadership) to articulate how concepts and principles in the field of leadership studies can be applied in distinct ways to advance the educational purposes of their organisations. The course also invites participants to examine how theoretical perspectives can be applied to critically reflect on educational leadership practices for developing a positive, collaborative, and motivating organizational culture.	Mon 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MCL901	Language Planning and Language Education	4	Language planning and language education complement each other. Language planning undergoes a stringent and comprehensive developmental process, providing recommendations to be implemented under language education. Language planning varies in different region in order to meet their respective needs, hence, resulting in the differences in language education. Understanding the relationship between language planning and language education will enable students to analyse, compare and objectively review the local language education.	TBC	LetterGrade
NIE	MCL903	The Instructional Use of Children and Young Adults' Literature in Chinese Language Teaching and Learning	4	As a Chinese language teacher in a primary or secondary school, it is imperative to understand the relationship between children and adults literature and pedagogies. This course will help to enhance the understanding of the applications in children and young adults literature, allowing teachers to hone their teaching pedagogies. This course will examine the instructional use of children and young adults literature in <u>Chinese language teaching and learning</u> .	TBC	LetterGrade
NIE	MCL904	Chinese Literature and Culture and Its teaching	4	As a Chinese literature teacher in a secondary school or junior college, this course is helpful in enhancing understanding the developments in Chinese literature and culture and allowing teachers to hone their teaching pedagogies. This course will examine the historical regularity and characteristics of Chinese literature and culture, and related pedagogical theory and practice based on the development of Chinese literature and culture.	TBC	LetterGrade
NIE	MCL908	Teaching of Listening and Speaking of Chinese: From Theory to Practice	4	Listening and Speaking are two of the key components of Chinese language teaching in the 21st century in many countries. Chinese learners are expected to be able to listen and speak in order to comprehend information presented in the Chinese language. As a result, Chinese language educators must keep abreast with recent developments and research in Chinese language listening and speaking, and be equipped with the ability to teach listening and speaking skills effectively.	TBC	LetterGrade
NIE	MCL910	Chinese Language Testing and Assessment	4	Testing and assessment forms a critical component of language learning and Chinese language curriculum. It is not only closely related to the teachers pedagogy and students learning strategy, but also determines and impacts learning outcomes for both short and long terms.	TBC	LetterGrade
NIE	MEA902	Visual Arts and Creativity	4	* Learners will understand the types of cognition involved in the creative process of art making. * Learners will experience the dynamic role affective responses play in the art making process. * Learners will understand the importance of interdisciplinary knowledge in engendering creative thoughts. * Learners will also acquire foundational knowledge to facilitate creativity in the classroom setting.	Tue 1730 - 2030	LetterGrade

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NIE	MEA904	Art Making and Aesthetic Enquiry	4	* To discover and observe contemporary art practices through artist studio visits * To evaluate and experiment with one's own artistic practice. * To produce a body of work through a personal artistic investigation.	Wed 1800 - 2100	LetterGrade
NIE	MID906	Training Methods and Strategies	4	Instructional designers need to have the knowledge of a wide repertoire of instructional theories, methods and strategies in order to address different types of performance gap. This course aims to provide conceptual understanding of the theoretical underpinnings of selected training / instructional methods and strategies. It aims to provide opportunities for students to explore concrete training / instructional design theories and to design appropriate strategies and / or activities to achieve the instructional objectives.	TBC	LetterGrade
NIE	MID942	Multimedia Design	4	Computer-based instruction allows the possibility of delivering lessons to students that employ multiple information modes (text, graphics, sounds, etc.) within a non-linear structure, which collectively falls under the rubric Multimedia. This subject covers the following areas: screen design, the use of media, learner control, navigation, and metaphor.	TBC	LetterGrade
NIE	MLS922	Chemistry of Biological Systems	4	The role of metals in biological systems is an area of great interest to chemists and biologists alike. Life in its present form would not be possible without the involvement of the metallic elements. This course deals with the key ways in which metals participate in biochemical processes, focusing on biomolecules that incorporate metal atoms in their molecular structures. The ways in which the chemical properties of selected metals define the biological function of the systems they are found in will be discussed. This course integrates chemical principles into lectures on the structure and functions of biological molecules as well as gives an introduction to the standard tools and techniques employed in Chemical Biology research. Topics covered will include the roles of proteins in metal management, oxygen carrier proteins, electron-transfer proteins and metalloenzymes as well as relevant topics recent literature. Quantitative analysis of biological samples based on classical techniques and modern instrumental methods will also be discussed.	Thu 1030 - 1330	LetterGrade
NIE	MLS923	Separation and Analytical Chemistry	4	The discovery of new functional compounds often starts from the key step in the separation, purification, and qualitative/quantitative detection of the active component(s). The main goals of this course is to familiarise students with (i) state-of-the-art separation methodologies, (ii) development and applications of (bio)sensing/analytical instrumentations. The course topics include concept and trends in modern chemical analysis; various chromatographic and spectrometric methods; case study on separation of biomolecules and environmental samples; and fundamentals of (bio)sensing transducing techniques for the development of biosensors.	Mon 0930 - 1230	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS924	Materials Chemistry	4	Materials chemistry involves studying the relationship between structures and properties of materials. The following important major materials will be discussed in-depth in this course: metals, ceramics, glass, polymers and composites. The structure, physicochemical property, application relationship of these materials will be discussed and highlighted in the context of material properties and structural elements. Cross-disciplinary aspects of materials chemistry will be emphasized throughout this course by linking other scientific disciplines such as nanotechnology, colloidal science, biomedicine and engineering. This course will be taught by a team of chemists with different backgrounds and students will benefit from the diverse range of topics and ideas presented.	Wed 0930 - 1230	LetterGrade
NIE	MLS942	Global Energy Systems	4	This is an introductory course that is designed for students to understand the global energy sources available for mankind. It provides both theoretical and practical understanding of how energy and climate policies are distributed and connected across a multitude of cases drawn from global to local arenas. This is the first course in this Master programme and is intended for those engaged with or planning a career in professional contexts relating to energy management, education, RD and marketing.	Tue 1430 - 1730	LetterGrade
NIE	MLS943	Photovoltaic Physics and Solar Cells	4	Today the traditional energy sources based on fossil fuels are depleting at an ever fast rate and will be exhausted in the next centuries. Photovoltaic solar energy becomes one of the most feasible alternative energy sources that will provide energy demand for mankind in the future. This course deals with the issues of an alternative sustainable energy source that relies on the direct conversion of sunlight into electrical energy in solar cells based on the photovoltaic effect.	Wed 1430 - 1730	LetterGrade
NIE	MLS952	Nanotechnology	4	This is an elective course that is designed for students to understand the physics, technology and applications of nanoscaled materials and devices. These include quantum confinements in 0, 1, 2 and 3 D systems, assembly and characterization of nanostructures, nanofabrication and application of various functional devices.	Thu 1430 - 1730	LetterGrade
NIE	MLS962	Environmental Health and Toxicology	4	The study of the effect of pollution on natural ecosystems by examining biological responses at all organismal levels (molecular to whole organism) using biomarkers is an increasingly popular tool for managing environmental health by various governmental bodies. MSc (LS) Environmental Science candidates who take this course will have an opportunity to run laboratory experiments using known pollutants. Field sampling will be conducted to examine possible correlations with environmental contamination, allowing candidates to experience a direct application of ecotoxicology techniques as an environmental management tool. This experimental extension allows for a more rigorous assessment of a research-based course	Wed 1430 - 1730	LetterGrade

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NIE	MLS964	Global Environmental Change and Vulnerable Ecosystems	4	Accelerated change in the environment on a global scale has been observed in the Anthropocene. The drivers of these global scale changes are attributed to human activities that relate to an unsustainable rate of development. Natural ecosystems (both terrestrial and aquatic) are impacted by environmental change, particularly when the scale and intensity of change exceeds the natural resilience and tolerance states of these ecosystems. It is important to be able to monitor and understand the impacts of environmental change to whole systems, especially vulnerable tropical ecosystems which largely support more than half of the earth's human populations. This course aims to look at global environmental change and their impacts on vulnerable ecosystems from a scientific perspective, utilising state of the science technologies and newly developing knowledge. The course will be delivered as a practice-based field-orientated programme, which will have an overseas field component.	Mon 1430 - 1730	LetterGrade
NIE	MLS985	Chemical Ecology	4	This course explores the role and function of chemistry in mediating interactions among a variety of organisms, including intraspecific and interspecific interactions. The course will cover the range of compound classes involved in chemical ecology. In addition, we will discuss the diversity of species interactions and chemical compounds in terrestrial and aquatic systems, and methods (e.g. analytical and molecular techniques) used to detect these compounds. We will cover defensive and offensive chemistry mediating antagonistic interactions; the evolution of defenses; chemicals mediating mutualisms, competition, and sociality; the physiology of chemical production and recognition; and how chemical ecology affects humans. The biotechnological applications of chemical ecology will also be discussed. This course will include paper discussions of relevant recent literature.	Tue 0930 - 1230	LetterGrade
NIE	MLT909	Research Methodologies for the Learning Sciences	4	1. Concept, purpose and process of conducting research 2. Research and ethics 3. Identifying research problem 4. Conducting critical literature review 5. Writing research questions 6. Designing surveys and interviews 7. Collecting quantitative data 8. Collecting qualitative data 9. Analysing quantitative data 10. Analysing qualitative data 11. Reporting research	TBC	LetterGrade

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NIE	MLT913	Assessment in the Generative AI (GAI) Age	4	This course examines the evolving landscape of educational assessment in the age of generative AI (GAI). Rather than focusing on the technology itself, we critically analyze how GAI impacts assessment practices while upholding fundamental assessment principles. We learn to design effective assessments that leverage GAI for personalized learning and feedback, while grounding ourselves in enduring assessment concepts. We also investigate how GAI can uncover deeper insights from assessment data and facilitate self-directed learning. Using Selwyn's socio-technical framework, we will problematise the context, looking into the limitations, and ethical considerations of GAI in assessment, emphasizing the enduring priorities in this rapidly changing times.	TBC	LetterGrade
NIE	MLT917	Artificial Intelligence for Education: A Pedagogical Spectrum	4	Modern artificially intelligent systems for education (AIED) embody various pedagogical models to scaffold participants' learning, each of which holds different implications for how the technology is designed and what kind of data is generated. This seminar-based course will showcase concrete use-cases of AI systems for education that are aligned with pedagogies such as mastery, inquiry learning, collaborative learning, socio-emotional learning, embodied learning, and demonstrate how they work and what their limitations are. By showcasing how these different learning possibilities can be created with AI-enabled technology, the course will enculturate participants into the practice of teaching with technology for active learning to create more participatory, connected and reflective classrooms. Taken together, in strong alignment with MOE's most recent EdTech masterplan 2030, this course will strengthen participants' proficiency in e-pedagogies and their know-how of cutting-edge practices for creating and critiquing technology-enabled learning experiences drawing on artificial intelligence for education.	TBC	LetterGrade
NIE	MME906	Curriculum Studies in Mathematics	4	This is a specialisation elective course for the MEd (Mathematics) programme. The course contributes to the following programme objectives particularly in the area of curriculum studies in mathematics: (1) develop the participants' competencies in conducting educational research; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Wed 1730 - 2030	LetterGrade
NIE	MME916	Statistics and the Teaching of Statistics	4	This is a specialisation elective course for the MEd (Mathematics) programme. This course contributes to the following programme objectives particularly in the area of statistics and its teaching: (1) build the participants' knowledge of the mathematics subject matter; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Mon 1800 - 2100	LetterGrade

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NIE	MML905	School-Based Curriculum Design for Malay Language Teaching	4	In the Malay Language Curriculum Pedagogy Review Committee Report (MLCPRC) 2005, among its recommendations were the need to have ML teachers identifying and nurturing their students to become the best that they can be in the learning of the language. The concept of Differentiated Instructions was also introduced to enhance and engage student learning. In 2010, the Mother Tongue Languages Review Committee submitted their recommendation indicating the need to make the teaching and learning of Mother Tongue Language more purposeful and dynamic to the needs of students and the changing demographic background of learners. Bearing these two policy reports in mind, and the Curriculum 2015 (C2015) in detailing broad-based and holistic curriculum as well as calling for finer customization of learning, there is a need for a course on school-based curriculum design (SBCD) for the teaching of ML. Also, the relevance of SBCD in Malay Language by taking into account the latest educational theories, approaches and challenges will also be examined. This course will help participants understand the concept of SBCD and how it can be implemented in the context of ML teaching and learning in Singapore schools. Participants will also be required to plan and analyze the effectiveness of an SBCD programme.	TBC	LetterGrade
NIE	MML914	Using Children and Young Adult Literature to Promote Social Emotional Learning	4	This course emphasizes on the role and function of literature to childrens and young adults social and emotional development. It focuses on the selection of appropriate books in terms of content that features multidimensional characters that are ethnically and culturally diverse. Teachers will also explore the social-emotional themes addressed in these books. This course is ideal for teachers with an interest in children and young adults social and emotional development. Teachers will deepen their familiarity with a range and diversity of genres for children and develop knowledge and critical understanding of issues and debates in the field.	TBC	LetterGrade
NIE	MSC903	Science as Practice	4	* To provide more science education courses for participants to choose in the MEd programme * To strengthen the theory and practice nexus of science as practice in science teaching * To enable participants to make connections between the ideas of science as practice to other classroom practices	Mon 1800 - 2100	LetterGrade

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NIE	MSC906	Representations & New Media in Science Education	4	Learning science involves students making sense of and generating multiple modes of representations (e.g., written text, images and mathematical symbols) that characterise science. Classroom teachers also make use multiple media and forms of representations to present the subject matter and shape their students conceptual understanding. This course will offer participants an overview of the theories and analytical tools so that participants are able to examine representations and media that are used in research and in classroom practice. In addition, participants will apply the theories learned to analyse representational artifacts commonly used in the teaching of science (e.g., diagram, textbook), including the use of new media such as simulation and video to determine their efficacy in supporting student learning.	Thu 1800 - 2100	LetterGrade
NIE	MSL903	Learning Analytics for Science of Learning	4	Learning analytics is an emerging field of study that has been gathering broad interests in educational research and practices; recent research has harnessed the power of learning analytics to enhance understanding of learning processes. Learning analytics can be a game-changer that creates more effective learning environments by providing useful insights that help us to understand, visualize and predict learners performance, provide learners with personalized learning, and increase retention and success rates. As a relatively new field of study, there is no such course offered in NIE. Learning analytics can bolster the scientific bases of learning through making visible empirical evidences of learning. Hence it is timely to introduce this course as a new and relevant specialized elective for the MSc (Science of Learning) programme.	TBC	LetterGrade

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NIE	MSL904	Educational Neuroscience: Principles, Perspectives, Practices	4	Advances in imaging techniques, behavioural and psychological research enable the integration of disciplines that investigate human learning, opening up possibilities for the enhancement, update and eventually the reform of educational theories and practices. The field of educational neuroscience and its potential contributions to educational research is now more pronounced than before. Apart from shedding light on brain mechanisms that underpin cognitive and social learning development, research on brain science is also contributing towards neurobiological evidence-based interventions that are addressing educational concerns. These include issues such as i) early learning struggles and early intervention, ii) challenges that individual differences pose, iii) effectiveness of educational and treatment approaches to cognitive struggles and deficits, iv) widening possibilities that brain plasticity brings to normal (e.g. life-long learning) and more. Such a neuroscience and education convergence not only carry multiple implications for educational policy but at the same time, foregrounds the mutual benefits of the interaction between neurobiology and education, as education may also conceivably offer a naturalistic framework for research on the brain. This course is designed to follow the Foundations in Science of Learning course, and although it is not necessary to have taken this course previously, students will be expected to undertake some specified pre-	TBC	LetterGrade
NIE	MSM903	Algebra	4	This course in abstract algebra aims to introduce you to rings, groups, and possibly other algebraic structures such as modules, and to present a range of examples to facilitate the understanding of the abstract theory so that you have a good grasp of the fundamental concepts in abstract algebra. This course is intended for educators, especially secondary and post-secondary school teachers, to help them to have an in-depth conceptual understanding of some topics in school mathematics such as number systems, polynomials, from an advanced and structural perspective of abstract algebraic systems. This course will also lay a foundation for students who plan to pursue a PhD in areas related to abstract algebra.	Wed 1800 - 2100	LetterGrade
NIE	MSM906	Discrete Mathematics	4	This course aims to expose mathematics educators to counting principles which will enhance their content knowledge of teaching permutations and combinations, as well as elementary probability. Additionally, this course introduces a useful branch of discrete mathematics called graph theory which has many applications in modelling real-life contexts. This course also lays a foundation for students who plan to pursue a PhD in the area of discrete mathematics.	Thu 1800 - 2100	LetterGrade

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NIE	MSM908	Number Theory	4	This course in number theory aims to introduce you to fundamental concepts in elementary number theory, including divisibility and primes, unique factorization, congruences and quadratic reciprocity. This course is intended for educators, especially secondary and post-secondary school teachers, to help them develop in-depth conceptual understanding of some topics in school mathematics such as number systems, greatest common divisor, and the Fundamental Theorem of Arithmetic. Real world applications of number theory will also be discussed. Examples include the use of check digits for error detection in our National Registration Identity Card (NRIC) numbers and the RSA encryption system for secure online transactions. This course will also lay a foundation for students who plan to learn more advanced mathematics in areas related to algebra and number theory.	Fri 1800 - 2100	LetterGrade
NIE	MTCL901	Language Code: Theory and Practice	4	As Chinese characters are ideographic in nature, the phonetic functions are weak. Furthermore, the structure of Chinese characters are complex and difficult to recognize, to read as well as to write. Therefore, phonetic system, Hanyu Pinyin was developed to aid in learning Chinese. Chinese characters and Chinese phonics operates with two different set of rules. Chinese characters represent single syllables while Hanyu Pinyin operates with a set of standard basic rules in relation to different forms of Chinese words. As instructors of TCIL, it is important to understand the characteristics of these two codes in order to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL902	Vocabulary and Grammar: Theory and Practice	4	The fundamental purpose of learning any language is for communication purpose. Be it in spoken or written communication, vocabulary and grammar are two of the most important components in any language learning, as they play a vital role in building up language proficiency. In teaching Chinese as an international language, instructors must understand the grammatical rules and its effect on vocabulary on the target language to bring about effective teaching. Hence, this course will lay a good foundation in Chinese vocabulary and grammar basics, so as to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL903	Chinese-English Contrastive Analysis & Its Application	4	The use of translation in learning a foreign language is widely used as a teaching and learning strategy to help students remember, comprehend and acquire the use of the target language. The influence of the learners first language, however, will have substantial impact in the language acquisition process. Hence understanding the major difference between Chinese-English through contrastive analysis in theories and practice of translation and its application in TCIL is necessary to equip TCIL instructor with the fundamental understanding to implement the bilingual model in TCIL.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL904	Teaching of Listening & Speaking Skills in TCIL	4	Listening and speaking are two important skills required in any language learning. They are complex skills that need to be developed consciously. In any interaction, comprehending the language used is necessary for effective communication. Hence, as instructors for TCIL, it is important to acquire the various communicative language teaching pedagogical approaches in order to teach effective communication skills. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language listening and speaking content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL905	Teaching of Reading And Writing Skills In TCIL	4	Reading and writing are two important literacy skills one requires to function effectively in everyday life. These two skills are interconnected and can be developed together. With global economies and emerging new technologies, new literacies are already becoming part of the educational landscape. Hence, as instructors for TCIL, it is important to understand the various teaching pedagogical approaches to engage learners of this new age. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language reading and writing content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL906	Application of Information Technology in TCIL	4	In todays 21st century education, the use of ICT for teaching and learning had infiltrated schools at a rapid pace. To ensure that todays digital learners are future-ready for the workforce of tomorrow, educators must understand and embrace the need to employ the use of ICT to create a 21st century learning environment. A 21st century educator must be competent to use technology with ease in teaching and learning, be it in the classroom or out of classroom where learning takes place anytime, anywhere. Hence, as TCIL instructors, it is important to understand the application of technological tools with content and pedagogical approaches, and appreciate how ICT can create an effective learning environment for TCIL.	TBC	LetterGrade
NIE	MTCL907	Language Testing & Assessment in TCIL	4	Testing and assessment is an integral part of the learning process, and must be closely aligned with curricular objectives, content and pedagogy. It serves as the central function of getting the best possible evidence on what the students have learned. Teachers and students can then use this information to decide what to do next in the teaching and learning process. It is important that TCIL instructors be equipped with the necessary assessment competencies, so that quality teaching and learning can be achieved in all TCIL classrooms, bearing in mind the varied language backgrounds and proficiency levels of TCIL learners.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL908	Analysis & Development of Instructional Materials for TCIL	4	Over the last three decades, there are many TCIL curriculums and instructional materials developed for non-native learners globally. However, TCIL instructors find it challenging to identify proper instructional materials for learners of differing abilities. This course aims to enhance the knowledge and skills of TCIL instructors in analysing the instructional materials developed by different editors and publishers. In addition, through better understanding of principles of the curriculum design and instructional materials development for TCIL, instructors will be well equipped in developing instructional materials for different learners.	TBC	LetterGrade
NIE	MTCL909	Global Chinese and Contemporary China	4	The rapid rise of China as a global economy has driven an increase to the educational and pragmatic value of learning Chinese language globally. Understanding the history and development of Chinas rise and economic globalization is essential to TCIL instructors as they thread beyond the grounds of China in TCIL to non-native learners.	TBC	LetterGrade
NIE	MTCL911	Professional English for TCIL Instructors	4	All teachers need to possess skills that enable them to communicate effectively with a range of stakeholders in the educational settings. Being able to apply these skills in a second language is all the more critical for Chinese language teachers who will need to fulfill school related tasks and communicate with other members of staff, students and their parents in the English medium. This course helps to prepare participants who will be working in international settings as they move through their careers.	TBC	LetterGrade
NIE	MTCL912	Early Childhood Education in TCIL: Theory and Practice	4	Early childhood education is crucial as it has direct impact on the development of learning skills, social and emotional abilities of a child. It is during the early childhood years that we should accentuate the development of language, speech and literacy, as it will significantly enhance the childs learning in the later years. Educators should leverage on the varied learning styles and characteristics of early childhood learners, from infancy to the age of eight, apply corresponding learning theories into practice, to bring about effective teaching and learning of Chinese as an international language.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL913	Chinese Language Education for International Schools	4	According to the study by International School Consultancy Research (2017), there is a rapid surge in the growth of international schools globally. With a growth in expatriate families and an increase in enrolment within the schools host country, the increasing trend is expected to continue in the next ten years. This growing demand corresponds to the need to develop professionally-trained Chinese language educators for International schools. Language offerings in international schools are unique and vary over different school programme. However, each aims to provide students with an edge in this competitive and ever-changing world. Hence, this course will broaden participants knowledge of teaching Chinese language in international school settings and provides constructive career development opportunities to participants	TBC	LetterGrade
NIE	MTL901	Tamil Curriculum, Materials including IT: Selection and Evaluation	4	This module will focus on Curriculum Creation, Development with the evidence of educational and psychological theories in Learning and Literacy development. The course will include current methods of Selection of goals of a Tamil Language Curriculum, related materials; evaluation of IT related materials and assessment. This module also includes evidence based research studies, Teaching and Learning theories, learning strategies and development of Language Skills based on Holistic <u>Second Language Curriculum for Singapore</u> .	Thu 1830 - 2130	LetterGrade
NIE	MTL906	Assessment for Tamil Language	4	This module aims to widen students knowledge on Assessment theories and concepts. In specific, the module will focus on Holistic, Formative and Summative Assessment, its impact. This module will also elaborate on the place of Second Language Assessment in Tamil Language Education in Singapore. The aspects of effective assessment will also be covered in the module. This module will look into the assessment of the various language skills and the emphasis of these skills in teaching and learning. The module will also include the assessment theories introduced newly and the rationales of these suggestions. Uniformity in assessment is also a key concept that will be covered in the module.	Mon 1830 - 2130	LetterGrade
NIE	MUE901	Issues in Music Education	4	This course focuses on the historical, psychological and sociological foundations of teaching and learning music. The course also explores in depth current curricular thinking and issues in music education. By the end of the course, students should be able to: i) Articulate the historical underpinnings of music education in Singapore ii) Relate current thinking about the teaching and learning of music from an international perspective to the local context iii) Identify current issues within music education with theoretical and pedagogical understanding.	Tue 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MUE903	Popular Culture and ICT in Music Education	4	This course consists of two main components. Firstly, it examines the development and practice of popular musics through practical sessions and critical review, and explores fundamental concepts and issues on their applications and implications in the music classroom. Secondly, it provides a theoretical basis for developing music curriculum and pedagogy for schools by examining ways in which ICT is used in music and music education. * Popular musics and their significance in music education. * Development of popular musics from its Anglo-American Roots; development of vernacular pop musics in Asia such as J pop, K pop, Bhagra, Mat-Rok and Canto-Mando pop. * Exploring musical genres: Rhythm Blues, Funk, Soul, Blues, Rock Roll, Rock, Fusion Rock, Heavy Metal and standard Top 40s pop and media music charts. * Learning to Perform in a real music setting; practical sessions on the basic techniques of various pop instruments. * Popular music pedagogical practices and their applications in the music classroom. * Theoretical survey of ICT applications and platforms and their practical applications in music teaching and learning.	Wed 1730 - 2030	LetterGrade
NBS	BR7311	Seminar in Capital Market Research in Accounting	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7374	Seminar in Entrepreneurship	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7331	Seminar in Information Systems Research	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7332	Contemporary Issues in Information Systems	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7351	Seminar in Consumer Behaviour	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7352	Seminar in Marketing Modelling	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7354	Advanced Seminar in Quantitative Marketing	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7371	Advanced Topic in Strategic Management	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7361	Optimisation	3	Academic Calendar Nanyang Business School NTU Singapore		
RSIS	IR6004	Japanese Foreign Policy by Dr John Bradford	3	Japan has emerged as a critical strategic actor in the Indo-Pacific region and beyond in the contemporary period. In contrast to its passive economics-based foreign policy pursued during the Cold War, Japan is pursuing a proactive foreign policy. This is manifested in a variety of ways, including its military modernization, upgrade of the US-Japan alliance, diversification of security partners beyond the United States, proactive diplomacy with states in the Indo-Pacific and beyond at both the bilateral and multilateral levels and others. This shift in Japan's foreign policy has direct implications on Japan's role in regional and global affairs, the Indo-Pacific balance of power, the U.S.-Japan relations, and its relations with China and the rest of the Indo-Pacific states. In light of this context, this module has three key goals: (1) to make sense of the evolution of Japanese foreign policy; (2) to provide students with analytical tools to understand the shift in Japanese foreign policy and (3) to introduce students the salient issues defining contemporary Japanese foreign policy. To achieve these goals, the module is structured as follows. The first session locates Japan in the context of the 'international'/'global'.	WED, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
				We discuss why and how Japan matters in political, economic and security terms. This is followed by a brief historical overview of Japan's role/position in international relations over five historical periods – Chinese World Order, age of imperialism, World War II, Cold War and post-Cold War. The third session is a detailed discussion of the domestic sources/elements of Japanese foreign policymaking, focusing on the bureaucracy, politicians and the decision-making processes. The fourth session provides a detailed understanding of the type of foreign policy that emerged at the beginning of the postwar period. It will highlight the principles of Japanese post-war foreign policy, which continue to define its foreign policy practice until today. This session will also outline the factors that led to the emergence of the US-Japan security alliance, which is an important pillar of Japanese foreign policy. The fifth session applies IR theory (realism, mercantilism, social constructivism and analytical eclecticism) to Japanese foreign policy behaviour in the post-Cold War period. The remaining half of the module focuses on key issues/themes important to the understanding of Japanese foreign policy today. These are: Japan's unresolved historical legacy in East Asia; the U.S.-Japan alliance; Japan-China relations; Japan-Korean Peninsula relations; Japan-Southeast Asia (ASEAN) relations; Japan's multilateralism policy; and finally, Japan's foreign policy in the twenty-first century.		
RSIS	AS6013	State, Society & Politics in China by Asst Prof James Char	3	This course is intended to be an in-depth examination of the key aspects of contemporary Chinese political economy. There will be four major parts in the course. First, it will quickly survey the political and economic legacies left by Mao. Second, it will look at the origins of China's reform and opening up policy, and the political dynamics of the incremental reform approach. Special attention will be paid to the questions of why and how China adopted and implemented its gradualist reform program. In the third part, the course will focus on the results and consequences of the reform, including such topics as the changes in centre-local relations, state-society relations, income gap and regional imbalance, rural political economy, and social instability and social welfare. In the last section, we the course will aim to provide an understanding of Chinese society in the broader context of globalisation, the ideological and institutional evolutions of the CCP, and China's political reforms. The ultimate purpose of the course is to encourage students to understand and analyse contemporary China by grasping the complex interactions of cultural, historical, societal, political, economical, as well as global forces.	THU, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
RSIS	IP6006	The Political Economy of Development by Dr Luis Montesclaros	3	“What is development?” is a highly contested question Development means different things to different people, and there is even less consensus on “how can economic development be achieved?” and “why is it not always achieved?” Yet, these questions will likely be relevant to graduate students (Masters/PhD) in RSIS, whether they major in International Political Economy, Asian Studies, International Relations, or Strategic Studies. In Part I of this course, we will trace the evolution and changes of dominant ideas and approaches to development. We will critically evaluate perspectives such as modernisation, dependency, and developmentalism, as well as assess practices that are understood under the notions of the ‘developmental state,’ ‘Washington Consensus,’ neoliberalism and embedded liberalism. This culminates in your first paper, a Brief Expert Commentary contextualising one or more of these perspectives within your country of choice. In Part II of the course, we will examine practical policy challenges and approaches attempted by governments at the sector level to launch effective developmental states. This culminates in your Term Paper, a Decision Memo on how to better govern a sector of your choosing. Case discussions will be used occasionally to give the students an experiential learning environment as we work through the problems faced by leaders, government officials, managers, and policymakers, including China, Singapore, and South Korea, among others.	THU, 9:30AM TO 12:30PM 1 MAR 2027 – 28 MAY 2027	
SBS	BS7001	Foundation Course in Molecular & Cell Biology	3	https://www.ntu.edu.sg/sbs/admissions/programmes/graduate/research/curriculum-courses/bs7001---foundational-course-in-molecular-cell-biology	To be confirmed	No formal Exam
SPMS	MH7001	Continuous Methods	4		Wednesday 9:30am – 11:20am Friday 9:30am – 11:20am	
SPMS	MH7007	Topics in Scientific Computation I	4		Tuesday 10:30am – 12:20pm Thursday 10:30am – 12:20pm	
SPMS	MH7014	Graduate Seminar – Discrete Mathematics I	4		Thursday 1:30pm – 5:20pm	
SPMS	MH7023	Introduction to Atmospheric Dynamics and Predictability	4		Monday: 9:30am – 11:20am Wednesday: 1:30pm – 3:20pm	
SPMS	MH7024	Probability Theory and Applications	4		Monday 3:30pm – 5:20pm Tuesday: 3:30pm – 5:20pm	
SPMS	PH7007	Experimental Techniques in Condensed Matter Physics	4		Monday 10:30am – 12:20pm Tuesday 1:30pm – 3:20pm	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
SPMS	PH7011	Nonlinear Dynamics	4			
SPMS	PH7013	Advanced Numerical Methods for Physicists	4		Tuesday 9:30am – 11:30am Wednesday 9:30am – 11:30am	
SPMS	PH7015	Advanced Optics	4		Monday 3:30pm – 5:20pm Thursday 3:30pm – 5:20pm	
SPMS	PH7020	Magnetism and Spintronics	4		Thursday 1:30pm – 3:20pm Friday 12:30pm – 2:20pm	
SPMS	PH7024	Graduate Quantum Mechanics	4		Thursday 10:30am – 12:20pm Friday 2:30pm – 4:20pm	
SoH	HC7006	Special Topics in Modern/Contemporary Chinese Literature	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Thursday, 2.30pm-5.20pm	Course is conducted in Chinese language
SoH	HC7017	Topics In Intellectual & Cultural History Of Imperial China	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Tuesday, 2.30pm-5.20pm	Course is conducted in Chinese language
SoH	HL7110	Graduate Seminar in Contemporary Literature & Culture	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/english-(creative-writing)#Content_C003_Col02	Tuesday, 2.30pm-5.20pm	Requires background in literary studies
SoH	HL7118	Graduate Seminar in Literature & Religion	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/english-(creative-writing)#Content_C003_Col02	Thursday, 2.30pm-5.20pm	Requires background in literary studies or religious studies
SoH	HR7001	Graduate Proseminar in History, Theory, and Criticism of Art	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/art-history#Content_C003_Col02	Wednesday, 9.30am–12.20pm	Requires background in Art History or related studies
SoH	HV7001	Humanities for Sustainable Futures: Theory and Practice	3	The course will cover the following topics within the broader framework of environmental humanities: ecocriticism,ecomedia studies, ecocinema studies, eco-aesthetics, comparative environmental philosophy, ecofeminism,environmental justice, animal and multispecies studies, affect studies, new materialism, posthumanism,Anthropocene studies, futurology and planetary studies, and the intersections of environmental humanities withdigital and medical humanities.	Tuesday, 2.30pm-5.20pm	Students are strongly recommended to have some level of prior humanities training.
SSS	HE7003	Econometrics II	3	This course provides a detailed treatment of models for analyzing both cross-sectional and time series data. The course emphasizes application rather than theory; hence, the models introduced are illustrated with examples using real-life data. In general, theoretical developments are often carried to the extent that they enhance understanding of the model. Website: https://www.ntu.edu.sg/sss/graduate-education/graduate-research/economics#Content_C047_Col00	TBC	Letter Graded Course

NTU-NUS/SMU/SUTD PhD Student Exchange Programme
List of NTU Courses to be offered in Semester 2 AY2026

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
ADM	AP7050	Filmmaking as Artistic Research	3	This course invites MA and PhD students to develop their research as an open-ended investigation on emerging issues using cinematic forms as a mode of investigation and knowledge production. To research and practice in filmmaking means to collect and record, to perform and act, to narrate and understand the makings of images in this world. This course fosters research methods and practice through filmmaking with a focus on topics of environment, climate change and image-making. Consisting of a series of lectures, film viewings, and practice-based exercises, and writings this course explores the different methods of artistic research in filmmaking. Students are required to review a set of readings, which must be mastered as the foundation for understanding the major underlying principles of the subject and discussion in class. Your understanding of these basic readings will be put to the test through writing, and during lectures and group discussions. The final project will demonstrate your ability of using filmmaking for artistic research and practice to open the possibility for further investigations.	Mondays, 9.30am to 12.20pm	
ADM	AP7040	Exhibition Design	3	This course will present and discuss current issues and concepts in exhibition-making with a particular focus on design approaches and interpretative techniques that communicate knowledge and engage the audiences. Exhibition-making means the creation of innovative structures for the presentation of cultural artefacts through interdisciplinary collaboration. There will be a critical discussion on the latest design trends in the context of museum exhibitions helping the students to reflect on the relationship between the narrative, the space and the visitor experience. As exhibition concepts and agendas largely reflect the hosting institutions' mission, students will be exposed to a variety of exhibitions: historical, cultural, scientific, permanent and temporary. The course approaches the definition of the exhibition space as a "narrative environment" and the evolving notion of interpreting and displaying cultural artifacts, analyzing the physical, sensorial and conceptual dimension of the museum space.	Wednesdays, 9.30am to 12.20pm	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
ADM	AP7023	Guided Study: Advanced Interdisciplinary Research in Media	3	This course offers hands-on, interdisciplinary training in media research through three distinct methodological lenses. Students arrive with a self-selected research topic and carry it through three sequential mini-projects, each grounded in a different approach: case study analysis, practice-based research, and participatory design. Across the semester, students will gain direct experience researching into media (studying it as an object of inquiry), through media (using media-making itself as a method of inquiry), and with media users and communities (participatory and collaborative research). The course emphasises critical reflection, methodological rigour, creativity, and the development of original research approaches, thus building a versatile methodological toolkit applicable to independent research beyond the course.	Thursdays, 1.30pm to 4.20pm	
ADM	AP7057	Seminar in Design and Colors	3	In this seminar you will analyse and discuss the historical development of two-dimensional design and colour through the lens of Western and Chinese ink paintings. You will study works from the 15th to early 20th century, a period that marks the most significant development of art concepts and technical progress of both Western and Chinese ink painting. Through this comparative analysis you will examine the parallel developments of color theory, space structures and design concepts. This course will deepen your awareness and comprehension of art and design development across these two cultural areas.	Tuesdays, 1:30pm to 4:20pm	
CCDS	CE6127	Artificial Intelligence in Game Design	3		Monday, 9.30am-12.30pm	No formal exam
CCDS	CE6121	Human Computer Interaction Theory and Practice	3		Friday, 6.30-9.30pm	No formal exam
CCDS	CE7412	Computational and Systems Biology	3		Tuesday, 2.30-5.30pm	No formal exam
CCDS	CE7453	Numerical Algorithms	3		Monday, 2.30-5.30pm	No formal exam
CEE	CV7002	Advanced Strength of Materials	3		Every Mon	
CEE	CV7003	Engineering Mathematics and Machine Learning	3		Every Fri	
CEE	CV7501	Membrane Science & Technology	3		Every Wed	
EEE	EE7207	Neural Networks & Deep Learning	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-computer-control-automation#curriculum	Every Thursday (6.30 pm to 9.30 pm)	Letter grade Limited slots, capped at 3 slots
EEE	EE7403	Image Analysis And Pattern Recognition	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-signal-processing#curriculum	Every Friday (6.30 pm to 9.30 pm)	Letter grade Limited slots, capped at 3 slots
EEE	EE7602	Integrated Circuit Technology	3	https://www.ntu.edu.sg/eee/admissions/programmes/graduate-programmes/detail/master-of-science-in-integrated-circuits-and-microelectronics#curriculum	Every Wednesday (6.30 pm to 9.30 pm)	Letter grade
EEE	EE7603	Semiconductor Physics & Applications	3	Master of Science in Integrated Circuits & Microelectronics School of Electrical and Electronic Engineering NTU Singapore	Every Tuesday (6.30 pm to 9.30 pm)	Letter grade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
LKCMedicine	MD7102	Bio-Entrepreneurship	3	Started in 2016, LKCMedicine's Team-Based Learning Bio-Entrepreneurship course provides post-graduate students with an understanding of the entire drug discovery and development process starting from basic and translational research to creating viable partnerships with BioPharma companies or establishing Spin-Offs. The course is open to students from diverse backgrounds ranging from medicine, life sciences and engineering to humanity and social sciences. To understand biotech investing, each student will be assigned virtual USD 500,000. Each student will use online analytic tools (e.g. Morningstar) to evaluate BioPharma companies from a list we provide, and then use the USD 500K to create an investment portfolio. Students will track their portfolio during the course, buying and selling shares on a weekly basis. Students with the top three most productive portfolios will receive prizes.	Tuesdays, 2.30 - 5.20 pm	
LKCMedicine	MD7107	Latest Development in Infectious Disease Research	3	This course is intended to students interested by the latest development in infectious diseases research. Learning objectives: critical assessment and debate on cutting-edge articles; analyse diagnostic approaches and new therapeutic strategies for viral, bacterial and fungal infections; discuss the global danger and challenges of antimicrobial resistance; discuss and propose solution for current global health challenges in communicable diseases; develop and defend research global health challenges; analyse the clinical relevance of microbiomes and redefine the Koch postulates. A project-based learning approach will be followed that includes team-based analysis of cutting-edge papers; team-based development and defence of solutions for medically relevant problems; elaboration and presentation of research proposals to solve global health issues.	Wednesdays, 9.30 am - 12.20 pm	
LKCMedicine	MD7115	Introduction to Biostatistics with R	3	This course will cover basic statistical principles applied to biological data analysis. Statistical theory will be introduced although the focus will be on the practical usage and applications in biology. The course will be a mixture of lectures and practical sessions in the statistical language R.	Mondays, 9.30 am - 12.20 pm	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
LKC Medicine	MD7116	Introduction to Neuroscience, Neural Systems and Behavior	3	This course provides an introduction to the concepts, principles and technologies of contemporary cellular, molecular neuroscience, and systems neuroscience, including sensory and motor systems, behaviour, memory and cognition. Contents include: • Introduction to Neuroscience • Electrical signals of nerve cells • Voltage-dependent conductance • Ion Channels • Synaptic transmission Neurotransmitters and their receptors • Molecular signaling within neurons • Synaptic plasticity • Early brain development • Construction of neural circuits • Systems neuroscience including sensory and motor systems, behaviour, memory and cognition	Wednesdays, 2.30 - 5.20 pm	
LKC Medicine	MD7119	Advanced Cancer Biology and Regenerative Medicine	3	The course is intended for students with basic understandings of cell biology and molecular biology, particularly those pursuing advanced study or research in cancer biology, stem cell biology, or regenerative medicine. This course will provide an integrated understanding of the fundamental principles of cancer biology and regenerative medicine, with emphasis on the molecular, cellular, and genetic mechanisms underlying tumourigenesis, cancer progression, stem cell self-renewal and reprogramming, and tissue regeneration, highlighting the interface between stem cell biology and cancer biology. Students can expect to develop critical knowledge and analytical skills essential for research on cancer and regenerative medicine.	Thursdays, 9.30 am - 12.20 pm	
LKC Medicine	MD7114	Neuroengineering	3	The course will introduce PhD students to various concepts from engineering that are used in neuroscientific research. Course content will include the following topics: • Signal processing for neural spike detection, sorting and decoding. • fMRI signal processing • Human kinematic modelling, experimentation and data analysis • Signal processing and experimentation for EEG • Eye tracking & Virtual reality as tools for neuroscientists • Medical device design and System integration fundamentals In addition to providing a strong theoretical framework, the course will give students an opportunity to perform laboratory measurements of human kinematics	TBC	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
MAE	MA6514	Machine Learning & Data Science	3	The purpose of this introductory course in Machine Learning is to show how to adopt ML as an important and essential paradigm in advancing a corporation's operation and decision making processes towards Industry 4.0. Using Python, Numpy, Pandas and Colab Notebook as its development environment, the presentation of outcome of machine learning computations are achieved through visualization tool, Matplotlib. Scikit-Learn, an extensive well-documented open source suite of machine learning algorithms serves as the platform to analyse data for underlying trends, classification, identifying criteria parameters, deriving rules for decision making in real-world problem solving, thus leading to a rapid prototyping of a suitable machine learning system. Topics included are: Context of machine learning and data science in Smart Manufacturing for Industry 4.0; Types of machine learning; Unsupervised learning; Supervised learning; Neural networks and reinforcement learning; Model evaluation and improvement.	TBC	Grading
NIE	MAEL922	Leading Curriculum Development, Implementation & Evaluation	4	Curriculum leadership involves overseeing the decision-making, implementation, and evaluation of the educative experience. At the curriculum planning and design stage, value-laden choices are made about what constitutes good education, about what knowledge is of most worth to learners, what experiences are most effective in enabling learners to acquire this knowledge, what is the most appropriate way to organize these experiences, and how would we know if learners have acquired this knowledge. Curriculum leadership also involves overseeing the implementation of national and school-based curriculum innovation efforts, professional development and school improvement. This course will address theoretical concepts that are related to the implementation process and issues of curricular innovations. Finally, the course will introduce participants to principles related to evaluation of curriculum implementation.	Thu 1800 - 2100	LetterGrade
NIE	MAEL932	Educational Leadership and Organizational Culture	4	This course explores the critical role of leadership in shaping and sustaining organizational culture in diverse education contexts. Participants will explore the intersection of educational theory and leadership theories (such as distributed leadership, transformational leadership) to articulate how concepts and principles in the field of leadership studies can be applied in distinct ways to advance the educational purposes of their organisations. The course also invites participants to examine how theoretical perspectives can be applied to critically reflect on educational leadership practices for developing a positive, collaborative, and motivating organizational culture.	Mon 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MCL901	Language Planning and Language Education	4	Language planning and language education complement each other. Language planning undergoes a stringent and comprehensive developmental process, providing recommendations to be implemented under language education. Language planning varies in different region in order to meet their respective needs, hence, resulting in the differences in language education. Understanding the relationship between language planning and language education will enable students to analyse, compare and objectively review the local language education.	TBC	LetterGrade
NIE	MCL903	The Instructional Use of Children and Young Adults' Literature in Chinese Language Teaching and Learning	4	As a Chinese language teacher in a primary or secondary school, it is imperative to understand the relationship between children and adults literature and pedagogies. This course will help to enhance the understanding of the applications in children and young adults literature, allowing teachers to hone their teaching pedagogies. This course will examine the instructional use of children and young adults literature in <u>Chinese language teaching and learning</u> .	TBC	LetterGrade
NIE	MCL904	Chinese Literature and Culture and Its teaching	4	As a Chinese literature teacher in a secondary school or junior college, this course is helpful in enhancing understanding the developments in Chinese literature and culture and allowing teachers to hone their teaching pedagogies. This course will examine the historical regularity and characteristics of Chinese literature and culture, and related pedagogical theory and practice based on the development of Chinese literature and culture.	TBC	LetterGrade
NIE	MCL908	Teaching of Listening and Speaking of Chinese: From Theory to Practice	4	Listening and Speaking are two of the key components of Chinese language teaching in the 21st century in many countries. Chinese learners are expected to be able to listen and speak in order to comprehend information presented in the Chinese language. As a result, Chinese language educators must keep abreast with recent developments and research in Chinese language listening and speaking, and be equipped with the ability to teach listening and speaking skills effectively.	TBC	LetterGrade
NIE	MCL910	Chinese Language Testing and Assessment	4	Testing and assessment forms a critical component of language learning and Chinese language curriculum. It is not only closely related to the teachers pedagogy and students learning strategy, but also determines and impacts learning outcomes for both short and long terms.	TBC	LetterGrade
NIE	MEA902	Visual Arts and Creativity	4	* Learners will understand the types of cognition involved in the creative process of art making. * Learners will experience the dynamic role affective responses play in the art making process. * Learners will understand the importance of interdisciplinary knowledge in engendering creative thoughts. * Learners will also acquire foundational knowledge to facilitate creativity in the classroom setting.	Tue 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MEA904	Art Making and Aesthetic Enquiry	4	* To discover and observe contemporary art practices through artist studio visits * To evaluate and experiment with one's own artistic practice. * To produce a body of work through a personal artistic investigation.	Wed 1800 - 2100	LetterGrade
NIE	MID906	Training Methods and Strategies	4	Instructional designers need to have the knowledge of a wide repertoire of instructional theories, methods and strategies in order to address different types of performance gap. This course aims to provide conceptual understanding of the theoretical underpinnings of selected training / instructional methods and strategies. It aims to provide opportunities for students to explore concrete training / instructional design theories and to design appropriate strategies and / or activities to achieve the instructional objectives.	TBC	LetterGrade
NIE	MID942	Multimedia Design	4	Computer-based instruction allows the possibility of delivering lessons to students that employ multiple information modes (text, graphics, sounds, etc.) within a non-linear structure, which collectively falls under the rubric Multimedia. This subject covers the following areas: screen design, the use of media, learner control, navigation, and metaphor.	TBC	LetterGrade
NIE	MLS922	Chemistry of Biological Systems	4	The role of metals in biological systems is an area of great interest to chemists and biologists alike. Life in its present form would not be possible without the involvement of the metallic elements. This course deals with the key ways in which metals participate in biochemical processes, focusing on biomolecules that incorporate metal atoms in their molecular structures. The ways in which the chemical properties of selected metals define the biological function of the systems they are found in will be discussed. This course integrates chemical principles into lectures on the structure and functions of biological molecules as well as gives an introduction to the standard tools and techniques employed in Chemical Biology research. Topics covered will include the roles of proteins in metal management, oxygen carrier proteins, electron-transfer proteins and metalloenzymes as well as relevant topics recent literature. Quantitative analysis of biological samples based on classical techniques and modern instrumental methods will also be discussed.	Thu 1030 - 1330	LetterGrade
NIE	MLS923	Separation and Analytical Chemistry	4	The discovery of new functional compounds often starts from the key step in the separation, purification, and qualitative/quantitative detection of the active component(s). The main goals of this course is to familiarise students with (i) state-of-the-art separation methodologies, (ii) development and applications of (bio)sensing/analytical instrumentations. The course topics include concept and trends in modern chemical analysis; various chromatographic and spectrometric methods; case study on separation of biomolecules and environmental samples; and fundamentals of (bio)sensing transducing techniques for the development of biosensors.	Mon 0930 - 1230	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS924	Materials Chemistry	4	Materials chemistry involves studying the relationship between structures and properties of materials. The following important major materials will be discussed in-depth in this course: metals, ceramics, glass, polymers and composites. The structure, physicochemical property, application relationship of these materials will be discussed and highlighted in the context of material properties and structural elements. Cross-disciplinary aspects of materials chemistry will be emphasized throughout this course by linking other scientific disciplines such as nanotechnology, colloidal science, biomedicine and engineering. This course will be taught by a team of chemists with different backgrounds and students will benefit from the diverse range of topics and ideas presented.	Wed 0930 - 1230	LetterGrade
NIE	MLS942	Global Energy Systems	4	This is an introductory course that is designed for students to understand the global energy sources available for mankind. It provides both theoretical and practical understanding of how energy and climate policies are distributed and connected across a multitude of cases drawn from global to local arenas. This is the first course in this Master programme and is intended for those engaged with or planning a career in professional contexts relating to energy management, education, RD and marketing.	Tue 1430 - 1730	LetterGrade
NIE	MLS943	Photovoltaic Physics and Solar Cells	4	Today the traditional energy sources based on fossil fuels are depleting at an ever fast rate and will be exhausted in the next centuries. Photovoltaic solar energy becomes one of the most feasible alternative energy sources that will provide energy demand for mankind in the future. This course deals with the issues of an alternative sustainable energy source that relies on the direct conversion of sunlight into electrical energy in solar cells based on the photovoltaic effect.	Wed 1430 - 1730	LetterGrade
NIE	MLS952	Nanotechnology	4	This is an elective course that is designed for students to understand the physics, technology and applications of nanoscaled materials and devices. These include quantum confinements in 0, 1, 2 and 3 D systems, assembly and characterization of nanostructures, nanofabrication and application of various functional devices.	Thu 1430 - 1730	LetterGrade
NIE	MLS962	Environmental Health and Toxicology	4	The study of the effect of pollution on natural ecosystems by examining biological responses at all organismal levels (molecular to whole organism) using biomarkers is an increasingly popular tool for managing environmental health by various governmental bodies. MSc (LS) Environmental Science candidates who take this course will have an opportunity to run laboratory experiments using known pollutants. Field sampling will be conducted to examine possible correlations with environmental contamination, allowing candidates to experience a direct application of ecotoxicology techniques as an environmental management tool. This experimental extension allows for a more rigorous assessment of a research-based course	Wed 1430 - 1730	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS964	Global Environmental Change and Vulnerable Ecosystems	4	Accelerated change in the environment on a global scale has been observed in the Anthropocene. The drivers of these global scale changes are attributed to human activities that relate to an unsustainable rate of development. Natural ecosystems (both terrestrial and aquatic) are impacted by environmental change, particularly when the scale and intensity of change exceeds the natural resilience and tolerance states of these ecosystems. It is important to be able to monitor and understand the impacts of environmental change to whole systems, especially vulnerable tropical ecosystems which largely support more than half of the earth's human populations. This course aims to look at global environmental change and their impacts on vulnerable ecosystems from a scientific perspective, utilising state of the science technologies and newly developing knowledge. The course will be delivered as a practice-based field-orientated programme, which will have an overseas field component.	Mon 1430 - 1730	LetterGrade
NIE	MLS985	Chemical Ecology	4	This course explores the role and function of chemistry in mediating interactions among a variety of organisms, including intraspecific and interspecific interactions. The course will cover the range of compound classes involved in chemical ecology. In addition, we will discuss the diversity of species interactions and chemical compounds in terrestrial and aquatic systems, and methods (e.g. analytical and molecular techniques) used to detect these compounds. We will cover defensive and offensive chemistry mediating antagonistic interactions; the evolution of defenses; chemicals mediating mutualisms, competition, and sociality; the physiology of chemical production and recognition; and how chemical ecology affects humans. The biotechnological applications of chemical ecology will also be discussed. This course will include paper discussions of relevant recent literature.	Tue 0930 - 1230	LetterGrade
NIE	MLT909	Research Methodologies for the Learning Sciences	4	1. Concept, purpose and process of conducting research 2. Research and ethics 3. Identifying research problem 4. Conducting critical literature review 5. Writing research questions 6. Designing surveys and interviews 7. Collecting quantitative data 8. Collecting qualitative data 9. Analysing quantitative data 10. Analysing qualitative data 11. Reporting research	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLT913	Assessment in the Generative AI (GAI) Age	4	This course examines the evolving landscape of educational assessment in the age of generative AI (GAI). Rather than focusing on the technology itself, we critically analyze how GAI impacts assessment practices while upholding fundamental assessment principles. We learn to design effective assessments that leverage GAI for personalized learning and feedback, while grounding ourselves in enduring assessment concepts. We also investigate how GAI can uncover deeper insights from assessment data and facilitate self-directed learning. Using Selwyn's socio-technical framework, we will problematise the context, looking into the limitations, and ethical considerations of GAI in assessment, emphasizing the enduring priorities in this rapidly changing times.	TBC	LetterGrade
NIE	MLT917	Artificial Intelligence for Education: A Pedagogical Spectrum	4	Modern artificially intelligent systems for education (AIED) embody various pedagogical models to scaffold participants' learning, each of which holds different implications for how the technology is designed and what kind of data is generated. This seminar-based course will showcase concrete use-cases of AI systems for education that are aligned with pedagogies such as mastery, inquiry learning, collaborative learning, socio-emotional learning, embodied learning, and demonstrate how they work and what their limitations are. By showcasing how these different learning possibilities can be created with AI-enabled technology, the course will enculturate participants into the practice of teaching with technology for active learning to create more participatory, connected and reflective classrooms. Taken together, in strong alignment with MOE's most recent EdTech masterplan 2030, this course will strengthen participants' proficiency in e-pedagogies and their know-how of cutting-edge practices for creating and critiquing technology-enabled learning experiences drawing on artificial intelligence for education.	TBC	LetterGrade
NIE	MME906	Curriculum Studies in Mathematics	4	This is a specialisation elective course for the MEd (Mathematics) programme. The course contributes to the following programme objectives particularly in the area of curriculum studies in mathematics: (1) develop the participants' competencies in conducting educational research; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Wed 1730 - 2030	LetterGrade
NIE	MME916	Statistics and the Teaching of Statistics	4	This is a specialisation elective course for the MEd (Mathematics) programme. This course contributes to the following programme objectives particularly in the area of statistics and its teaching: (1) build the participants' knowledge of the mathematics subject matter; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Mon 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MML905	School-Based Curriculum Design for Malay Language Teaching	4	In the Malay Language Curriculum Pedagogy Review Committee Report (MLCPRC) 2005, among its recommendations were the need to have ML teachers identifying and nurturing their students to become the best that they can be in the learning of the language. The concept of Differentiated Instructions was also introduced to enhance and engage student learning. In 2010, the Mother Tongue Languages Review Committee submitted their recommendation indicating the need to make the teaching and learning of Mother Tongue Language more purposeful and dynamic to the needs of students and the changing demographic background of learners. Bearing these two policy reports in mind, and the Curriculum 2015 (C2015) in detailing broad-based and holistic curriculum as well as calling for finer customization of learning, there is a need for a course on school-based curriculum design (SBCD) for the teaching of ML. Also, the relevance of SBCD in Malay Language by taking into account the latest educational theories, approaches and challenges will also be examined. This course will help participants understand the concept of SBCD and how it can be implemented in the context of ML teaching and learning in Singapore schools. Participants will also be required to plan and analyze the effectiveness of an SBCD programme.	TBC	LetterGrade
NIE	MML914	Using Children and Young Adult Literature to Promote Social Emotional Learning	4	This course emphasizes on the role and function of literature to childrens and young adults social and emotional development. It focuses on the selection of appropriate books in terms of content that features multidimensional characters that are ethnically and culturally diverse. Teachers will also explore the social-emotional themes addressed in these books. This course is ideal for teachers with an interest in children and young adults social and emotional development. Teachers will deepen their familiarity with a range and diversity of genres for children and develop knowledge and critical understanding of issues and debates in the field.	TBC	LetterGrade
NIE	MSC903	Science as Practice	4	* To provide more science education courses for participants to choose in the MEd programme * To strengthen the theory and practice nexus of science as practice in science teaching * To enable participants to make connections between the ideas of science as practice to other classroom practices	Mon 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSC906	Representations & New Media in Science Education	4	Learning science involves students making sense of and generating multiple modes of representations (e.g., written text, images and mathematical symbols) that characterise science. Classroom teachers also make use multiple media and forms of representations to present the subject matter and shape their students conceptual understanding. This course will offer participants an overview of the theories and analytical tools so that participants are able to examine representations and media that are used in research and in classroom practice. In addition, participants will apply the theories learned to analyse representational artifacts commonly used in the teaching of science (e.g., diagram, textbook), including the use of new media such as simulation and video to determine their efficacy in supporting student learning.	Thu 1800 - 2100	LetterGrade
NIE	MSL903	Learning Analytics for Science of Learning	4	Learning analytics is an emerging field of study that has been gathering broad interests in educational research and practices; recent research has harnessed the power of learning analytics to enhance understanding of learning processes. Learning analytics can be a game-changer that creates more effective learning environments by providing useful insights that help us to understand, visualize and predict learners performance, provide learners with personalized learning, and increase retention and success rates. As a relatively new field of study, there is no such course offered in NIE. Learning analytics can bolster the scientific bases of learning through making visible empirical evidences of learning. Hence it is timely to introduce this course as a new and relevant specialized elective for the MSc (Science of Learning) programme.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSL904	Educational Neuroscience: Principles, Perspectives, Practices	4	Advances in imaging techniques, behavioural and psychological research enable the integration of disciplines that investigate human learning, opening up possibilities for the enhancement, update and eventually the reform of educational theories and practices. The field of educational neuroscience and its potential contributions to educational research is now more pronounced than before. Apart from shedding light on brain mechanisms that underpin cognitive and social learning development, research on brain science is also contributing towards neurobiological evidence-based interventions that are addressing educational concerns. These include issues such as i) early learning struggles and early intervention, ii) challenges that individual differences pose, iii) effectiveness of educational and treatment approaches to cognitive struggles and deficits, iv) widening possibilities that brain plasticity brings to normal (e.g. life-long learning) and more. Such a neuroscience and education convergence not only carry multiple implications for educational policy but at the same time, foregrounds the mutual benefits of the interaction between neurobiology and education, as education may also conceivably offer a naturalistic framework for research on the brain. This course is designed to follow the Foundations in Science of Learning course, and although it is not necessary to have taken this course previously, students will be expected to undertake some specified pre-	TBC	LetterGrade
NIE	MSM903	Algebra	4	This course in abstract algebra aims to introduce you to rings, groups, and possibly other algebraic structures such as modules, and to present a range of examples to facilitate the understanding of the abstract theory so that you have a good grasp of the fundamental concepts in abstract algebra. This course is intended for educators, especially secondary and post-secondary school teachers, to help them to have an in-depth conceptual understanding of some topics in school mathematics such as number systems, polynomials, from an advanced and structural perspective of abstract algebraic systems. This course will also lay a foundation for students who plan to pursue a PhD in areas related to abstract algebra.	Wed 1800 - 2100	LetterGrade
NIE	MSM906	Discrete Mathematics	4	This course aims to expose mathematics educators to counting principles which will enhance their content knowledge of teaching permutations and combinations, as well as elementary probability. Additionally, this course introduces a useful branch of discrete mathematics called graph theory which has many applications in modelling real-life contexts. This course also lays a foundation for students who plan to pursue a PhD in the area of discrete mathematics.	Thu 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSM908	Number Theory	4	This course in number theory aims to introduce you to fundamental concepts in elementary number theory, including divisibility and primes, unique factorization, congruences and quadratic reciprocity. This course is intended for educators, especially secondary and post-secondary school teachers, to help them develop in-depth conceptual understanding of some topics in school mathematics such as number systems, greatest common divisor, and the Fundamental Theorem of Arithmetic. Real world applications of number theory will also be discussed. Examples include the use of check digits for error detection in our National Registration Identity Card (NRIC) numbers and the RSA encryption system for secure online transactions. This course will also lay a foundation for students who plan to learn more advanced mathematics in areas related to algebra and number theory.	Fri 1800 - 2100	LetterGrade
NIE	MTCL901	Language Code: Theory and Practice	4	As Chinese characters are ideographic in nature, the phonetic functions are weak. Furthermore, the structure of Chinese characters are complex and difficult to recognize, to read as well as to write. Therefore, phonetic system, Hanyu Pinyin was developed to aid in learning Chinese. Chinese characters and Chinese phonics operates with two different set of rules. Chinese characters represent single syllables while Hanyu Pinyin operates with a set of standard basic rules in relation to different forms of Chinese words. As instructors of TCIL, it is important to understand the characteristics of these two codes in order to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL902	Vocabulary and Grammar: Theory and Practice	4	The fundamental purpose of learning any language is for communication purpose. Be it in spoken or written communication, vocabulary and grammar are two of the most important components in any language learning, as they play a vital role in building up language proficiency. In teaching Chinese as an international language, instructors must understand the grammatical rules and its effect on vocabulary on the target language to bring about effective teaching. Hence, this course will lay a good foundation in Chinese vocabulary and grammar basics, so as to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL903	Chinese-English Contrastive Analysis & Its Application	4	The use of translation in learning a foreign language is widely used as a teaching and learning strategy to help students remember, comprehend and acquire the use of the target language. The influence of the learners first language, however, will have substantial impact in the language acquisition process. Hence understanding the major difference between Chinese-English through contrastive analysis in theories and practice of translation and its application in TCIL is necessary to equip TCIL instructor with the fundamental understanding to implement the bilingual model in TCIL.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL904	Teaching of Listening & Speaking Skills in TCIL	4	Listening and speaking are two important skills required in any language learning. They are complex skills that need to be developed consciously. In any interaction, comprehending the language used is necessary for effective communication. Hence, as instructors for TCIL, it is important to acquire the various communicative language teaching pedagogical approaches in order to teach effective communication skills. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language listening and speaking content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL905	Teaching of Reading And Writing Skills In TCIL	4	Reading and writing are two important literacy skills one requires to function effectively in everyday life. These two skills are interconnected and can be developed together. With global economies and emerging new technologies, new literacies are already becoming part of the educational landscape. Hence, as instructors for TCIL, it is important to understand the various teaching pedagogical approaches to engage learners of this new age. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language reading and writing content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL906	Application of Information Technology in TCIL	4	In todays 21st century education, the use of ICT for teaching and learning had infiltrated schools at a rapid pace. To ensure that todays digital learners are future-ready for the workforce of tomorrow, educators must understand and embrace the need to employ the use of ICT to create a 21st century learning environment. A 21st century educator must be competent to use technology with ease in teaching and learning, be it in the classroom or out of classroom where learning takes place anytime, anywhere. Hence, as TCIL instructors, it is important to understand the application of technological tools with content and pedagogical approaches, and appreciate how ICT can create an effective learning environment for TCIL.	TBC	LetterGrade
NIE	MTCL907	Language Testing & Assessment in TCIL	4	Testing and assessment is an integral part of the learning process, and must be closely aligned with curricular objectives, content and pedagogy. It serves as the central function of getting the best possible evidence on what the students have learned. Teachers and students can then use this information to decide what to do next in the teaching and learning process. It is important that TCIL instructors be equipped with the necessary assessment competencies, so that quality teaching and learning can be achieved in all TCIL classrooms, bearing in mind the varied language backgrounds and proficiency levels of TCIL learners.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL908	Analysis & Development of Instructional Materials for TCIL	4	Over the last three decades, there are many TCIL curriculums and instructional materials developed for non-native learners globally. However, TCIL instructors find it challenging to identify proper instructional materials for learners of differing abilities. This course aims to enhance the knowledge and skills of TCIL instructors in analysing the instructional materials developed by different editors and publishers. In addition, through better understanding of principles of the curriculum design and instructional materials development for TCIL, instructors will be well equipped in developing instructional materials for different learners.	TBC	LetterGrade
NIE	MTCL909	Global Chinese and Contemporary China	4	The rapid rise of China as a global economy has driven an increase to the educational and pragmatic value of learning Chinese language globally. Understanding the history and development of Chinas rise and economic globalization is essential to TCIL instructors as they thread beyond the grounds of China in TCIL to non-native learners.	TBC	LetterGrade
NIE	MTCL911	Professional English for TCIL Instructors	4	All teachers need to possess skills that enable them to communicate effectively with a range of stakeholders in the educational settings. Being able to apply these skills in a second language is all the more critical for Chinese language teachers who will need to fulfill school related tasks and communicate with other members of staff, students and their parents in the English medium. This course helps to prepare participants who will be working in international settings as they move through their careers.	TBC	LetterGrade
NIE	MTCL912	Early Childhood Education in TCIL: Theory and Practice	4	Early childhood education is crucial as it has direct impact on the development of learning skills, social and emotional abilities of a child. It is during the early childhood years that we should accentuate the development of language, speech and literacy, as it will significantly enhance the childs learning in the later years. Educators should leverage on the varied learning styles and characteristics of early childhood learners, from infancy to the age of eight, apply corresponding learning theories into practice, to bring about effective teaching and learning of Chinese as an international language.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL913	Chinese Language Education for International Schools	4	According to the study by International School Consultancy Research (2017), there is a rapid surge in the growth of international schools globally. With a growth in expatriate families and an increase in enrolment within the schools host country, the increasing trend is expected to continue in the next ten years. This growing demand corresponds to the need to develop professionally-trained Chinese language educators for International schools. Language offerings in international schools are unique and vary over different school programme. However, each aims to provide students with an edge in this competitive and ever-changing world. Hence, this course will broaden participants knowledge of teaching Chinese language in international school settings and provides constructive career development opportunities to participants	TBC	LetterGrade
NIE	MTL901	Tamil Curriculum, Materials including IT: Selection and Evaluation	4	This module will focus on Curriculum Creation, Development with the evidence of educational and psychological theories in Learning and Literacy development. The course will include current methods of Selection of goals of a Tamil Language Curriculum, related materials; evaluation of IT related materials and assessment. This module also includes evidence based research studies, Teaching and Learning theories, learning strategies and development of Language Skills based on Holistic <u>Second Language Curriculum for Singapore</u> .	Thu 1830 - 2130	LetterGrade
NIE	MTL906	Assessment for Tamil Language	4	This module aims to widen students knowledge on Assessment theories and concepts. In specific, the module will focus on Holistic, Formative and Summative Assessment, its impact. This module will also elaborate on the place of Second Language Assessment in Tamil Language Education in Singapore. The aspects of effective assessment will also be covered in the module. This module will look into the assessment of the various language skills and the emphasis of these skills in teaching and learning. The module will also include the assessment theories introduced newly and the rationales of these suggestions. Uniformity in assessment is also a key concept that will be covered in the module.	Mon 1830 - 2130	LetterGrade
NIE	MUE901	Issues in Music Education	4	This course focuses on the historical, psychological and sociological foundations of teaching and learning music. The course also explores in depth current curricular thinking and issues in music education. By the end of the course, students should be able to: i) Articulate the historical underpinnings of music education in Singapore ii) Relate current thinking about the teaching and learning of music from an international perspective to the local context iii) Identify current issues within music education with theoretical and pedagogical understanding.	Tue 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MUE903	Popular Culture and ICT in Music Education	4	This course consists of two main components. Firstly, it examines the development and practice of popular musics through practical sessions and critical review, and explores fundamental concepts and issues on their applications and implications in the music classroom. Secondly, it provides a theoretical basis for developing music curriculum and pedagogy for schools by examining ways in which ICT is used in music and music education. * Popular musics and their significance in music education. * Development of popular musics from its Anglo-American Roots; development of vernacular pop musics in Asia such as J pop, K pop, Bhagra, Mat-Rok and Canto-Mando pop. * Exploring musical genres: Rhythm Blues, Funk, Soul, Blues, Rock Roll, Rock, Fusion Rock, Heavy Metal and standard Top 40s pop and media music charts. * Learning to Perform in a real music setting; practical sessions on the basic techniques of various pop instruments. * Popular music pedagogical practices and their applications in the music classroom. * Theoretical survey of ICT applications and platforms and their practical applications in music teaching and learning.	Wed 1730 - 2030	LetterGrade
NBS	BR7311	Seminar in Capital Market Research in Accounting	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7374	Seminar in Entrepreneurship	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7331	Seminar in Information Systems Research	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7332	Contemporary Issues in Information Systems	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7351	Seminar in Consumer Behaviour	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7352	Seminar in Marketing Modelling	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7354	Advanced Seminar in Quantitative Marketing	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7371	Advanced Topic in Strategic Management	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7361	Optimisation	3	Academic Calendar Nanyang Business School NTU Singapore		
RSIS	IR6004	Japanese Foreign Policy by Dr John Bradford	3	Japan has emerged as a critical strategic actor in the Indo-Pacific region and beyond in the contemporary period. In contrast to its passive economics-based foreign policy pursued during the Cold War, Japan is pursuing a proactive foreign policy. This is manifested in a variety of ways, including its military modernization, upgrade of the US-Japan alliance, diversification of security partners beyond the United States, proactive diplomacy with states in the Indo-Pacific and beyond at both the bilateral and multilateral levels and others. This shift in Japan's foreign policy has direct implications on Japan's role in regional and global affairs, the Indo-Pacific balance of power, the U.S.-Japan relations, and its relations with China and the rest of the Indo-Pacific states. In light of this context, this module has three key goals: (1) to make sense of the evolution of Japanese foreign policy; (2) to provide students with analytical tools to understand the shift in Japanese foreign policy and (3) to introduce students the salient issues defining contemporary Japanese foreign policy. To achieve these goals, the module is structured as follows. The first session locates Japan in the context of the 'international'/'global'.	WED, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
				We discuss why and how Japan matters in political, economic and security terms. This is followed by a brief historical overview of Japan's role/position in international relations over five historical periods – Chinese World Order, age of imperialism, World War II, Cold War and post-Cold War. The third session is a detailed discussion of the domestic sources/elements of Japanese foreign policymaking, focusing on the bureaucracy, politicians and the decision-making processes. The fourth session provides a detailed understanding of the type of foreign policy that emerged at the beginning of the postwar period. It will highlight the principles of Japanese post-war foreign policy, which continue to define its foreign policy practice until today. This session will also outline the factors that led to the emergence of the US-Japan security alliance, which is an important pillar of Japanese foreign policy. The fifth session applies IR theory (realism, mercantilism, social constructivism and analytical eclecticism) to Japanese foreign policy behaviour in the post-Cold War period. The remaining half of the module focuses on key issues/themes important to the understanding of Japanese foreign policy today. These are: Japan's unresolved historical legacy in East Asia; the U.S.-Japan alliance; Japan-China relations; Japan-Korean Peninsula relations; Japan-Southeast Asia (ASEAN) relations; Japan's multilateralism policy; and finally, Japan's foreign policy in the twenty-first century.		
RSIS	AS6013	State, Society & Politics in China by Asst Prof James Char	3	This course is intended to be an in-depth examination of the key aspects of contemporary Chinese political economy. There will be four major parts in the course. First, it will quickly survey the political and economic legacies left by Mao. Second, it will look at the origins of China's reform and opening up policy, and the political dynamics of the incremental reform approach. Special attention will be paid to the questions of why and how China adopted and implemented its gradualist reform program. In the third part, the course will focus on the results and consequences of the reform, including such topics as the changes in centre-local relations, state-society relations, income gap and regional imbalance, rural political economy, and social instability and social welfare. In the last section, we the course will aim to provide an understanding of Chinese society in the broader context of globalisation, the ideological and institutional evolutions of the CCP, and China's political reforms. The ultimate purpose of the course is to encourage students to understand and analyse contemporary China by grasping the complex interactions of cultural, historical, societal, political, economical, as well as global forces.	THU, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
RSIS	IP6006	The Political Economy of Development by Dr Luis Montesclaros	3	“What is development?” is a highly contested question Development means different things to different people, and there is even less consensus on “how can economic development be achieved?” and “why is it not always achieved?” Yet, these questions will likely be relevant to graduate students (Masters/PhD) in RSIS, whether they major in International Political Economy, Asian Studies, International Relations, or Strategic Studies. In Part I of this course, we will trace the evolution and changes of dominant ideas and approaches to development. We will critically evaluate perspectives such as modernisation, dependency, and developmentalism, as well as assess practices that are understood under the notions of the ‘developmental state,’ ‘Washington Consensus,’ neoliberalism and embedded liberalism. This culminates in your first paper, a Brief Expert Commentary contextualising one or more of these perspectives within your country of choice. In Part II of the course, we will examine practical policy challenges and approaches attempted by governments at the sector level to launch effective developmental states. This culminates in your Term Paper, a Decision Memo on how to better govern a sector of your choosing. Case discussions will be used occasionally to give the students an experiential learning environment as we work through the problems faced by leaders, government officials, managers, and policymakers, including China, Singapore, and South Korea, among others.	THU, 9:30AM TO 12:30PM 1 MAR 2027 – 28 MAY 2027	
SBS	BS7001	Foundation Course in Molecular & Cell Biology	3	https://www.ntu.edu.sg/sbs/admissions/programmes/graduate/research/curriculum-courses/bs7001---foundational-course-in-molecular-cell-biology	To be confirmed	No formal Exam
SPMS	MH7001	Continuous Methods	4		Wednesday 9:30am – 11:20am Friday 9:30am – 11:20am	
SPMS	MH7007	Topics in Scientific Computation I	4		Tuesday 10:30am – 12:20pm Thursday 10:30am – 12:20pm	
SPMS	MH7014	Graduate Seminar – Discrete Mathematics I	4		Thursday 1:30pm – 5:20pm	
SPMS	MH7023	Introduction to Atmospheric Dynamics and Predictability	4		Monday: 9:30am – 11:20am Wednesday: 1:30pm – 3:20pm	
SPMS	MH7024	Probability Theory and Applications	4		Monday 3:30pm – 5:20pm Tuesday: 3:30pm – 5:20pm	
SPMS	PH7007	Experimental Techniques in Condensed Matter Physics	4		Monday 10:30am – 12:20pm Tuesday 1:30pm – 3:20pm	

NTU-SUSS PhD Student Exchange Programme
List of NTU Courses to be offered in Semester 2 AY2026

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MAEL922	Leading Curriculum Development, Implementation & Evaluation	4	Curriculum leadership involves overseeing the decision-making, implementation, and evaluation of the educative experience. At the curriculum planning and design stage, value-laden choices are made about what constitutes good education, about what knowledge is of most worth to learners, what experiences are most effective in enabling learners to acquire this knowledge, what is the most appropriate way to organize these experiences, and how would we know if learners have acquired this knowledge. Curriculum leadership also involves overseeing the implementation of national and school-based curriculum innovation efforts, professional development and school improvement. This course will address theoretical concepts that are related to the implementation process and issues of curricular innovations. Finally, the course will introduce participants to principles related to evaluation of curriculum implementation.	Thu 1800 - 2100	LetterGrade
NIE	MAEL932	Educational Leadership and Organizational Culture	4	This course explores the critical role of leadership in shaping and sustaining organizational culture in diverse education contexts. Participants will explore the intersection of educational theory and leadership theories (such as distributed leadership, transformational leadership) to articulate how concepts and principles in the field of leadership studies can be applied in distinct ways to advance the educational purposes of their organisations. The course also invites participants to examine how theoretical perspectives can be applied to critically reflect on educational leadership practices for developing a <u>positive, collaborative, and motivating organizational culture</u> .	Mon 1730 - 2030	LetterGrade
NIE	MCL901	Language Planning and Language Education	4	Language planning and language education complement each other. Language planning undergoes a stringent and comprehensive developmental process, providing recommendations to be implemented under language education. Language planning varies in different region in order to meet their respective needs, hence, resulting in the differences in language education. Understanding the relationship between language planning and language education will enable students to analyse, compare and objectively review the local language education.	TBC	LetterGrade
NIE	MCL903	The Instructional Use of Children and Young Adults' Literature in Chinese Language Teaching and Learning	4	As a Chinese language teacher in a primary or secondary school, it is imperative to understand the relationship between children and adults literature and pedagogies. This course will help to enhance the understanding of the applications in children and young adults literature, allowing teachers to hone their teaching pedagogies. This course will examine the instructional use of children and young adults literature in <u>Chinese language teaching and learning</u> .	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MCL904	Chinese Literature and Culture and Its teaching	4	As a Chinese literature teacher in a secondary school or junior college, this course is helpful in enhancing understanding the developments in Chinese literature and culture and allowing teachers to hone their teaching pedagogies. This course will examine the historical regularity and characteristics of Chinese literature and culture, and related pedagogical theory and practice based on the development of Chinese literature and culture.	TBC	LetterGrade
NIE	MCL908	Teaching of Listening and Speaking of Chinese: From Theory to Practice	4	Listening and Speaking are two of the key components of Chinese language teaching in the 21st century in many countries. Chinese learners are expected to be able to listen and speak in order to comprehend information presented in the Chinese language. As a result, Chinese language educators must keep abreast with recent developments and research in Chinese language listening and speaking, and be equipped with the ability to teach listening and speaking skills effectively.	TBC	LetterGrade
NIE	MCL910	Chinese Language Testing and Assessment	4	Testing and assessment forms a critical component of language learning and Chinese language curriculum. It is not only closely related to the teachers pedagogy and students learning strategy, but also determines and impacts learning outcomes for both short and long terms.	TBC	LetterGrade
NIE	MEA902	Visual Arts and Creativity	4	* Learners will understand the types of cognition involved in the creative process of art making. * Learners will experience the dynamic role affective responses play in the art making process. * Learners will understand the importance of interdisciplinary knowledge in engendering creative thoughts. * Learners will also acquire foundational knowledge to facilitate creativity in the classroom setting.	Tue 1730 - 2030	LetterGrade
NIE	MEA904	Art Making and Aesthetic Enquiry	4	* To discover and observe contemporary art practices through artist studio visits * To evaluate and experiment with one's own artistic practice. * To produce a body of work through a personal artistic investigation.	Wed 1800 - 2100	LetterGrade
NIE	MID906	Training Methods and Strategies	4	Instructional designers need to have the knowledge of a wide repertoire of instructional theories, methods and strategies in order to address different types of performance gap. This course aims to provide conceptual understanding of the theoretical underpinnings of selected training / instructional methods and strategies. It aims to provide opportunities for students to explore concrete training / instructional design theories and to design appropriate strategies and / or activities to achieve the instructional objectives.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MID942	Multimedia Design	4	Computer-based instruction allows the possibility of delivering lessons to students that employ multiple information modes (text, graphics, sounds, etc.) within a non-linear structure, which collectively falls under the rubric Multimedia. This subject covers the following areas: screen design, the use of media, learner control, navigation, and metaphor.	TBC	LetterGrade
NIE	MLS922	Chemistry of Biological Systems	4	The role of metals in biological systems is an area of great interest to chemists and biologists alike. Life in its present form would not be possible without the involvement of the metallic elements. This course deals with the key ways in which metals participate in biochemical processes, focusing on biomolecules that incorporate metal atoms in their molecular structures. The ways in which the chemical properties of selected metals define the biological function of the systems they are found in will be discussed. This course integrates chemical principles into lectures on the structure and functions of biological molecules as well as gives an introduction to the standard tools and techniques employed in Chemical Biology research. Topics covered will include the roles of proteins in metal management, oxygen carrier proteins, electron-transfer proteins and metalloenzymes as well as relevant topics recent literature. Quantitative analysis of biological samples based on classical techniques and modern instrumental methods will also be discussed.	Thu 1030 - 1330	LetterGrade
NIE	MLS923	Separation and Analytical Chemistry	4	The discovery of new functional compounds often starts from the key step in the separation, purification, and qualitative/quantitative detection of the active component(s). The main goals of this course is to familiarise students with (i) state-of-the-art separation methodologies, (ii) development and applications of (bio)sensing/analytical instrumentations. The course topics include concept and trends in modern chemical analysis; various chromatographic and spectrometric methods; case study on separation of biomolecules and environmental samples; and fundamentals of (bio)sensing transducing techniques for the development of biosensors.	Mon 0930 - 1230	LetterGrade
NIE	MLS924	Materials Chemistry	4	Materials chemistry involves studying the relationship between structures and properties of materials. The following important major materials will be discussed in-depth in this course: metals, ceramics, glass, polymers and composites. The structure, physicochemical property, application relationship of these materials will be discussed and highlighted in the context of material properties and structural elements. Cross-disciplinary aspects of materials chemistry will be emphasized throughout this course by linking other scientific disciplines such as nanotechnology, colloidal science, biomedicine and engineering. This course will be taught by a team of chemists with different backgrounds and students will benefit from the diverse range of topics and ideas presented.	Wed 0930 - 1230	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS942	Global Energy Systems	4	This is an introductory course that is designed for students to understand the global energy sources available for mankind. It provides both theoretical and practical understanding of how energy and climate policies are distributed and connected across a multitude of cases drawn from global to local arenas. This is the first course in this Master programme and is intended for those engaged with or planning a career in professional contexts relating to energy management, education, RD and marketing.	Tue 1430 - 1730	LetterGrade
NIE	MLS943	Photovoltaic Physics and Solar Cells	4	Today the traditional energy sources based on fossil fuels are depleting at an ever fast rate and will be exhausted in the next centuries. Photovoltaic solar energy becomes one of the most feasible alternative energy sources that will provide energy demand for mankind in the future. This course deals with the issues of an alternative sustainable energy source that relies on the direct conversion of sunlight into electrical energy in solar cells based on the photovoltaic effect.	Wed 1430 - 1730	LetterGrade
NIE	MLS952	Nanotechnology	4	This is an elective course that is designed for students to understand the physics, technology and applications of nanoscaled materials and devices. These include quantum confinements in 0, 1, 2 and 3 D systems, assembly and characterization of nanostructures, nanofabrication and application of various functional devices.	Thu 1430 - 1730	LetterGrade
NIE	MLS962	Environmental Health and Toxicology	4	The study of the effect of pollution on natural ecosystems by examining biological responses at all organismal levels (molecular to whole organism) using biomarkers is an increasingly popular tool for managing environmental health by various governmental bodies. MSc (LS) Environmental Science candidates who take this course will have an opportunity to run laboratory experiments using known pollutants. Field sampling will be conducted to examine possible correlations with environmental contamination, allowing candidates to experience a direct application of ecotoxicology techniques as an environmental management tool. This experimental extension allows for a more rigorous assessment of a research-based course	Wed 1430 - 1730	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLS964	Global Environmental Change and Vulnerable Ecosystems	4	Accelerated change in the environment on a global scale has been observed in the Anthropocene. The drivers of these global scale changes are attributed to human activities that relate to an unsustainable rate of development. Natural ecosystems (both terrestrial and aquatic) are impacted by environmental change, particularly when the scale and intensity of change exceeds the natural resilience and tolerance states of these ecosystems. It is important to be able to monitor and understand the impacts of environmental change to whole systems, especially vulnerable tropical ecosystems which largely support more than half of the earth's human populations. This course aims to look at global environmental change and their impacts on vulnerable ecosystems from a scientific perspective, utilising state of the science technologies and newly developing knowledge. The course will be delivered as a practice-based field-orientated programme, which will have an overseas field component.	Mon 1430 - 1730	LetterGrade
NIE	MLS985	Chemical Ecology	4	This course explores the role and function of chemistry in mediating interactions among a variety of organisms, including intraspecific and interspecific interactions. The course will cover the range of compound classes involved in chemical ecology. In addition, we will discuss the diversity of species interactions and chemical compounds in terrestrial and aquatic systems, and methods (e.g. analytical and molecular techniques) used to detect these compounds. We will cover defensive and offensive chemistry mediating antagonistic interactions; the evolution of defenses; chemicals mediating mutualisms, competition, and sociality; the physiology of chemical production and recognition; and how chemical ecology affects humans. The biotechnological applications of chemical ecology will also be discussed. This course will include paper discussions of relevant recent literature.	Tue 0930 - 1230	LetterGrade
NIE	MLT909	Research Methodologies for the Learning Sciences	4	1. Concept, purpose and process of conducting research 2. Research and ethics 3. Identifying research problem 4. Conducting critical literature review 5. Writing research questions 6. Designing surveys and interviews 7. Collecting quantitative data 8. Collecting qualitative data 9. Analysing quantitative data 10. Analysing qualitative data 11. Reporting research	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MLT913	Assessment in the Generative AI (GAI) Age	4	This course examines the evolving landscape of educational assessment in the age of generative AI (GAI). Rather than focusing on the technology itself, we critically analyze how GAI impacts assessment practices while upholding fundamental assessment principles. We learn to design effective assessments that leverage GAI for personalized learning and feedback, while grounding ourselves in enduring assessment concepts. We also investigate how GAI can uncover deeper insights from assessment data and facilitate self-directed learning. Using Selwyn's socio-technical framework, we will problematise the context, looking into the limitations, and ethical considerations of GAI in assessment, emphasizing the enduring priorities in this rapidly changing times.	TBC	LetterGrade
NIE	MLT917	Artificial Intelligence for Education: A Pedagogical Spectrum	4	Modern artificially intelligent systems for education (AIED) embody various pedagogical models to scaffold participants' learning, each of which holds different implications for how the technology is designed and what kind of data is generated. This seminar-based course will showcase concrete use-cases of AI systems for education that are aligned with pedagogies such as mastery, inquiry learning, collaborative learning, socio-emotional learning, embodied learning, and demonstrate how they work and what their limitations are. By showcasing how these different learning possibilities can be created with AI-enabled technology, the course will enculturate participants into the practice of teaching with technology for active learning to create more participatory, connected and reflective classrooms. Taken together, in strong alignment with MOE's most recent EdTech masterplan 2030, this course will strengthen participants' proficiency in e-pedagogies and their know-how of cutting-edge practices for creating and critiquing technology-enabled learning experiences drawing on artificial intelligence for education.	TBC	LetterGrade
NIE	MME906	Curriculum Studies in Mathematics	4	This is a specialisation elective course for the MEd (Mathematics) programme. The course contributes to the following programme objectives particularly in the area of curriculum studies in mathematics: (1) develop the participants' competencies in conducting educational research; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Wed 1730 - 2030	LetterGrade
NIE	MME916	Statistics and the Teaching of Statistics	4	This is a specialisation elective course for the MEd (Mathematics) programme. This course contributes to the following programme objectives particularly in the area of statistics and its teaching: (1) build the participants' knowledge of the mathematics subject matter; (2) provide participants with the knowledge and skills related to specific ideas in mathematics education.	Mon 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MML905	School-Based Curriculum Design for Malay Language Teaching	4	In the Malay Language Curriculum Pedagogy Review Committee Report (MLCPRC) 2005, among its recommendations were the need to have ML teachers identifying and nurturing their students to become the best that they can be in the learning of the language. The concept of Differentiated Instructions was also introduced to enhance and engage student learning. In 2010, the Mother Tongue Languages Review Committee submitted their recommendation indicating the need to make the teaching and learning of Mother Tongue Language more purposeful and dynamic to the needs of students and the changing demographic background of learners. Bearing these two policy reports in mind, and the Curriculum 2015 (C2015) in detailing broad-based and holistic curriculum as well as calling for finer customization of learning, there is a need for a course on school-based curriculum design (SBCD) for the teaching of ML. Also, the relevance of SBCD in Malay Language by taking into account the latest educational theories, approaches and challenges will also be examined. This course will help participants understand the concept of SBCD and how it can be implemented in the context of ML teaching and learning in Singapore schools. Participants will also be required to plan and analyze the effectiveness of an SBCD programme.	TBC	LetterGrade
NIE	MML914	Using Children and Young Adult Literature to Promote Social Emotional Learning	4	This course emphasizes on the role and function of literature to childrens and young adults social and emotional development. It focuses on the selection of appropriate books in terms of content that features multidimensional characters that are ethnically and culturally diverse. Teachers will also explore the social-emotional themes addressed in these books. This course is ideal for teachers with an interest in children and young adults social and emotional development. Teachers will deepen their familiarity with a range and diversity of genres for children and develop knowledge and critical understanding of issues and debates in the field.	TBC	LetterGrade
NIE	MSC903	Science as Practice	4	* To provide more science education courses for participants to choose in the MEd programme * To strengthen the theory and practice nexus of science as practice in science teaching * To enable participants to make connections between the ideas of science as practice to other classroom practices	Mon 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSC906	Representations & New Media in Science Education	4	Learning science involves students making sense of and generating multiple modes of representations (e.g., written text, images and mathematical symbols) that characterise science. Classroom teachers also make use multiple media and forms of representations to present the subject matter and shape their students conceptual understanding. This course will offer participants an overview of the theories and analytical tools so that participants are able to examine representations and media that are used in research and in classroom practice. In addition, participants will apply the theories learned to analyse representational artifacts commonly used in the teaching of science (e.g., diagram, textbook), including the use of new media such as simulation and video to determine their efficacy in supporting student learning.	Thu 1800 - 2100	LetterGrade
NIE	MSL903	Learning Analytics for Science of Learning	4	Learning analytics is an emerging field of study that has been gathering broad interests in educational research and practices; recent research has harnessed the power of learning analytics to enhance understanding of learning processes. Learning analytics can be a game-changer that creates more effective learning environments by providing useful insights that help us to understand, visualize and predict learners performance, provide learners with personalized learning, and increase retention and success rates. As a relatively new field of study, there is no such course offered in NIE. Learning analytics can bolster the scientific bases of learning through making visible empirical evidences of learning. Hence it is timely to introduce this course as a new and relevant specialized elective for the MSc (Science of Learning) programme.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSL904	Educational Neuroscience: Principles, Perspectives, Practices	4	Advances in imaging techniques, behavioural and psychological research enable the integration of disciplines that investigate human learning, opening up possibilities for the enhancement, update and eventually the reform of educational theories and practices. The field of educational neuroscience and its potential contributions to educational research is now more pronounced than before. Apart from shedding light on brain mechanisms that underpin cognitive and social learning development, research on brain science is also contributing towards neurobiological evidence-based interventions that are addressing educational concerns. These include issues such as i) early learning struggles and early intervention, ii) challenges that individual differences pose, iii) effectiveness of educational and treatment approaches to cognitive struggles and deficits, iv) widening possibilities that brain plasticity brings to normal (e.g. life-long learning) and more. Such a neuroscience and education convergence not only carry multiple implications for educational policy but at the same time, foregrounds the mutual benefits of the interaction between neurobiology and education, as education may also conceivably offer a naturalistic framework for research on the brain. This course is designed to follow the Foundations in Science of Learning course, and although it is not necessary to have taken this course previously, students will be expected to undertake some specified pre-	TBC	LetterGrade
NIE	MSM903	Algebra	4	This course in abstract algebra aims to introduce you to rings, groups, and possibly other algebraic structures such as modules, and to present a range of examples to facilitate the understanding of the abstract theory so that you have a good grasp of the fundamental concepts in abstract algebra. This course is intended for educators, especially secondary and post-secondary school teachers, to help them to have an in-depth conceptual understanding of some topics in school mathematics such as number systems, polynomials, from an advanced and structural perspective of abstract algebraic systems. This course will also lay a foundation for students who plan to pursue a PhD in areas related to abstract algebra.	Wed 1800 - 2100	LetterGrade
NIE	MSM906	Discrete Mathematics	4	This course aims to expose mathematics educators to counting principles which will enhance their content knowledge of teaching permutations and combinations, as well as elementary probability. Additionally, this course introduces a useful branch of discrete mathematics called graph theory which has many applications in modelling real-life contexts. This course also lays a foundation for students who plan to pursue a PhD in the area of discrete mathematics.	Thu 1800 - 2100	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MSM908	Number Theory	4	This course in number theory aims to introduce you to fundamental concepts in elementary number theory, including divisibility and primes, unique factorization, congruences and quadratic reciprocity. This course is intended for educators, especially secondary and post-secondary school teachers, to help them develop in-depth conceptual understanding of some topics in school mathematics such as number systems, greatest common divisor, and the Fundamental Theorem of Arithmetic. Real world applications of number theory will also be discussed. Examples include the use of check digits for error detection in our National Registration Identity Card (NRIC) numbers and the RSA encryption system for secure online transactions. This course will also lay a foundation for students who plan to learn more advanced mathematics in areas related to algebra and number theory.	Fri 1800 - 2100	LetterGrade
NIE	MTCL901	Language Code: Theory and Practice	4	As Chinese characters are ideographic in nature, the phonetic functions are weak. Furthermore, the structure of Chinese characters are complex and difficult to recognize, to read as well as to write. Therefore, phonetic system, Hanyu Pinyin was developed to aid in learning Chinese. Chinese characters and Chinese phonics operates with two different set of rules. Chinese characters represent single syllables while Hanyu Pinyin operates with a set of standard basic rules in relation to different forms of Chinese words. As instructors of TCIL, it is important to understand the characteristics of these two codes in order to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL902	Vocabulary and Grammar: Theory and Practice	4	The fundamental purpose of learning any language is for communication purpose. Be it in spoken or written communication, vocabulary and grammar are two of the most important components in any language learning, as they play a vital role in building up language proficiency. In teaching Chinese as an international language, instructors must understand the grammatical rules and its effect on vocabulary on the target language to bring about effective teaching. Hence, this course will lay a good foundation in Chinese vocabulary and grammar basics, so as to effectively teach Chinese as an international language.	TBC	LetterGrade
NIE	MTCL903	Chinese-English Contrastive Analysis & Its Application	4	The use of translation in learning a foreign language is widely used as a teaching and learning strategy to help students remember, comprehend and acquire the use of the target language. The influence of the learners first language, however, will have substantial impact in the language acquisition process. Hence understanding the major difference between Chinese-English through contrastive analysis in theories and practice of translation and its application in TCIL is necessary to equip TCIL instructor with the fundamental understanding to implement the bilingual model in TCIL.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL904	Teaching of Listening & Speaking Skills in TCIL	4	Listening and speaking are two important skills required in any language learning. They are complex skills that need to be developed consciously. In any interaction, comprehending the language used is necessary for effective communication. Hence, as instructors for TCIL, it is important to acquire the various communicative language teaching pedagogical approaches in order to teach effective communication skills. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language listening and speaking content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL905	Teaching of Reading And Writing Skills In TCIL	4	Reading and writing are two important literacy skills one requires to function effectively in everyday life. These two skills are interconnected and can be developed together. With global economies and emerging new technologies, new literacies are already becoming part of the educational landscape. Hence, as instructors for TCIL, it is important to understand the various teaching pedagogical approaches to engage learners of this new age. Besides acquiring pedagogical approaches in teaching non-native learners, keeping abreast with recent developments and research on the teaching of Chinese language reading and writing content and skills are also essential to build the competencies to effectively TCIL to the 21st century learners.	TBC	LetterGrade
NIE	MTCL906	Application of Information Technology in TCIL	4	In todays 21st century education, the use of ICT for teaching and learning had infiltrated schools at a rapid pace. To ensure that todays digital learners are future-ready for the workforce of tomorrow, educators must understand and embrace the need to employ the use of ICT to create a 21st century learning environment. A 21st century educator must be competent to use technology with ease in teaching and learning, be it in the classroom or out of classroom where learning takes place anytime, anywhere. Hence, as TCIL instructors, it is important to understand the application of technological tools with content and pedagogical approaches, and appreciate how ICT can create an effective learning environment for TCIL.	TBC	LetterGrade
NIE	MTCL907	Language Testing & Assessment in TCIL	4	Testing and assessment is an integral part of the learning process, and must be closely aligned with curricular objectives, content and pedagogy. It serves as the central function of getting the best possible evidence on what the students have learned. Teachers and students can then use this information to decide what to do next in the teaching and learning process. It is important that TCIL instructors be equipped with the necessary assessment competencies, so that quality teaching and learning can be achieved in all TCIL classrooms, bearing in mind the varied language backgrounds and proficiency levels of TCIL learners.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL908	Analysis & Development of Instructional Materials for TCIL	4	Over the last three decades, there are many TCIL curriculums and instructional materials developed for non-native learners globally. However, TCIL instructors find it challenging to identify proper instructional materials for learners of differing abilities. This course aims to enhance the knowledge and skills of TCIL instructors in analysing the instructional materials developed by different editors and publishers. In addition, through better understanding of principles of the curriculum design and instructional materials development for TCIL, instructors will be well equipped in developing instructional materials for different learners.	TBC	LetterGrade
NIE	MTCL909	Global Chinese and Contemporary China	4	The rapid rise of China as a global economy has driven an increase to the educational and pragmatic value of learning Chinese language globally. Understanding the history and development of Chinas rise and economic globalization is essential to TCIL instructors as they thread beyond the grounds of China in TCIL to non-native learners.	TBC	LetterGrade
NIE	MTCL911	Professional English for TCIL Instructors	4	All teachers need to possess skills that enable them to communicate effectively with a range of stakeholders in the educational settings. Being able to apply these skills in a second language is all the more critical for Chinese language teachers who will need to fulfill school related tasks and communicate with other members of staff, students and their parents in the English medium. This course helps to prepare participants who will be working in international settings as they move through their careers.	TBC	LetterGrade
NIE	MTCL912	Early Childhood Education in TCIL: Theory and Practice	4	Early childhood education is crucial as it has direct impact on the development of learning skills, social and emotional abilities of a child. It is during the early childhood years that we should accentuate the development of language, speech and literacy, as it will significantly enhance the childs learning in the later years. Educators should leverage on the varied learning styles and characteristics of early childhood learners, from infancy to the age of eight, apply corresponding learning theories into practice, to bring about effective teaching and learning of Chinese as an international language.	TBC	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MTCL913	Chinese Language Education for International Schools	4	According to the study by International School Consultancy Research (2017), there is a rapid surge in the growth of international schools globally. With a growth in expatriate families and an increase in enrolment within the schools host country, the increasing trend is expected to continue in the next ten years. This growing demand corresponds to the need to develop professionally-trained Chinese language educators for International schools. Language offerings in international schools are unique and vary over different school programme. However, each aims to provide students with an edge in this competitive and ever-changing world. Hence, this course will broaden participants knowledge of teaching Chinese language in international school settings and provides constructive career development opportunities to participants	TBC	LetterGrade
NIE	MTL901	Tamil Curriculum, Materials including IT: Selection and Evaluation	4	This module will focus on Curriculum Creation, Development with the evidence of educational and psychological theories in Learning and Literacy development. The course will include current methods of Selection of goals of a Tamil Language Curriculum, related materials; evaluation of IT related materials and assessment. This module also includes evidence based research studies, Teaching and Learning theories, learning strategies and development of Language Skills based on Holistic Second Language Curriculum for Singapore.	Thu 1830 - 2130	LetterGrade
NIE	MTL906	Assessment for Tamil Language	4	This module aims to widen students knowledge on Assessment theories and concepts. In specific, the module will focus on Holistic, Formative and Summative Assessment, its impact. This module will also elaborate on the place of Second Language Assessment in Tamil Language Education in Singapore. The aspects of effective assessment will also be covered in the module. This module will look into the assessment of the various language skills and the emphasis of these skills in teaching and learning. The module will also include the assessment theories introduced newly and the rationales of these suggestions. Uniformity in assessment is also a key concept that will be covered in the module.	Mon 1830 - 2130	LetterGrade
NIE	MUE901	Issues in Music Education	4	This course focuses on the historical, psychological and sociological foundations of teaching and learning music. The course also explores in depth current curricular thinking and issues in music education. By the end of the course, students should be able to: i) Articulate the historical underpinnings of music education in Singapore ii) Relate current thinking about the teaching and learning of music from an international perspective to the local context iii) Identify current issues within music education with theoretical and pedagogical understanding.	Tue 1730 - 2030	LetterGrade

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
NIE	MUE903	Popular Culture and ICT in Music Education	4	This course consists of two main components. Firstly, it examines the development and practice of popular musics through practical sessions and critical review, and explores fundamental concepts and issues on their applications and implications in the music classroom. Secondly, it provides a theoretical basis for developing music curriculum and pedagogy for schools by examining ways in which ICT is used in music and music education. * Popular musics and their significance in music education. * Development of popular musics from its Anglo-American Roots; development of vernacular pop musics in Asia such as J pop, K pop, Bhagra, Mat-Rok and Canto-Mando pop. * Exploring musical genres: Rhythm Blues, Funk, Soul, Blues, Rock Roll, Rock, Fusion Rock, Heavy Metal and standard Top 40s pop and media music charts. * Learning to Perform in a real music setting; practical sessions on the basic techniques of various pop instruments. * Popular music pedagogical practices and their applications in the music classroom. * Theoretical survey of ICT applications and platforms and their practical applications in music teaching and learning.	Wed 1730 - 2030	LetterGrade
NBS	BR7311	Seminar in Capital Market Research in Accounting	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7374	Seminar in Entrepreneurship	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7331	Seminar in Information Systems Research	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7332	Contemporary Issues in Information Systems	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7351	Seminar in Consumer Behaviour	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7352	Seminar in Marketing Modelling	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7354	Advanced Seminar in Quantitative Marketing	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7371	Advanced Topic in Strategic Management	3	Academic Calendar Nanyang Business School NTU Singapore		
NBS	BR7361	Optimisation	3	Academic Calendar Nanyang Business School NTU Singapore		
RSIS	IR6004	Japanese Foreign Policy by Dr John Bradford	3	Japan has emerged as a critical strategic actor in the Indo-Pacific region and beyond in the contemporary period. In contrast to its passive economics-based foreign policy pursued during the Cold War, Japan is pursuing a proactive foreign policy. This is manifested in a variety of ways, including its military modernization, upgrade of the US-Japan alliance, diversification of security partners beyond the United States, proactive diplomacy with states in the Indo-Pacific and beyond at both the bilateral and multilateral levels and others. This shift in Japan's foreign policy has direct implications on Japan's role in regional and global affairs, the Indo-Pacific balance of power, the U.S.-Japan relations, and its relations with China and the rest of the Indo-Pacific states. In light of this context, this module has three key goals: (1) to make sense of the evolution of Japanese foreign policy; (2) to provide students with analytical tools to understand the shift in Japanese foreign policy and (3) to introduce students the salient issues defining contemporary Japanese foreign policy. To achieve these goals, the module is structured as follows. The first session locates Japan in the context of the 'international'/'global'.	WED, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	

School	Course Code	Course Title	Course AU	Course Description (if not available on website)	Class Timetable	Others (e.g. Pass/Fail grading)
RSIS	AS6013	State, Society & Politics in China by Asst Prof James Char	3	This course is intended to be an in-depth examination of the key aspects of contemporary Chinese political economy. There will be four major parts in the course. First, it will quickly survey the political and economic legacies left by Mao. Second, it will look at the origins of China's reform and opening up policy, and the political dynamics of the incremental reform approach. Special attention will be paid to the questions of why and how China adopted and implemented its gradualist reform program. In the third part, the course will focus on the results and consequences of the reform, including such topics as the changes in centre-local relations, state-society relations, income gap and regional imbalance, rural political economy, and social instability and social welfare. In the last section, we the course will aim to provide an understanding of Chinese society in the broader context of globalisation, the ideological and institutional evolutions of the CCP, and China's political reforms. The ultimate purpose of the course is to encourage students to understand and analyse contemporary China by grasping the complex interactions of cultural, historical, societal, political, economical, as well as global forces.	THU, 6:30PM TO 9:30PM 1 MAR 2027 – 28 MAY 2027	
RSIS	IP6006	The Political Economy of Development by Dr Luis Montesclaros	3	"What is development?" is a highly contested question Development means different things to different people, and there is even less consensus on "how can economic development be achieved?" and "why is it not always achieved?" Yet, these questions will likely be relevant to graduate students (Masters/PhD) in RSIS, whether they major in International Political Economy, Asian Studies, International Relations, or Strategic Studies. In Part I of this course, we will trace the evolution and changes of dominant ideas and approaches to development. We will critically evaluate perspectives such as modernisation, dependency, and developmentalism, as well as assess practices that are understood under the notions of the 'developmental state,' 'Washington Consensus,' neoliberalism and embedded liberalism. This culminates in your first paper, a Brief Expert Commentary contextualising one or more of these perspectives within your country of choice. In Part II of the course, we will examine practical policy challenges and approaches attempted by governments at the sector level to launch effective developmental states. This culminates in your Term Paper, a Decision Memo on how to better govern a sector of your choosing. Case discussions will be used occasionally to give the students an experiential learning environment as we work through the problems faced by leaders, government officials, managers, and policymakers, including China, Singapore, and South Korea, among others.	THU, 9:30AM TO 12:30PM 1 MAR 2027 – 28 MAY 2027	
SoH	HC7006	Special Topics in Modern/Contemporary Chinese Literature	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Thursday, 2.30pm-5.20pm	Course is conducted in Chinese language
SoH	HC7017	Topics In Intellectual & Cultural History Of Imperial China	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/chinese#Content_C002_Col02	Tuesday, 2.30pm-5.20pm	Course is conducted in Chinese language
SoH	HL7110	Graduate Seminar in Contemporary Literature & Culture	3	https://www.ntu.edu.sg/soh/admissions/graduate/graduate-course-descriptions/english-(creative-writing)#Content_C003_Col02	Tuesday, 2.30pm-5.20pm	Requires background in literary studies

